NATURE MAGAZINE

APRIL 1929 35¢ VOL. 13, NO. 4

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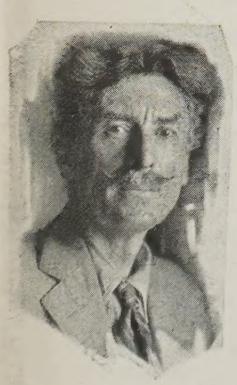

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1928

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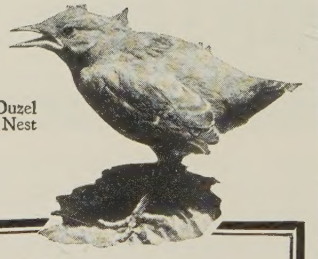

Young Water Ouzel
Just Out of Nest

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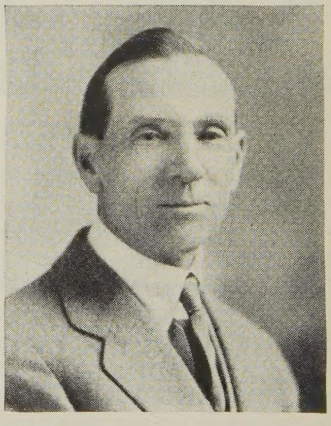

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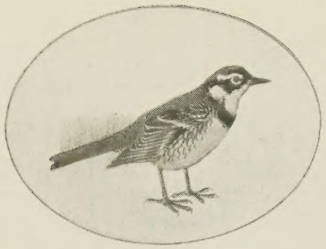

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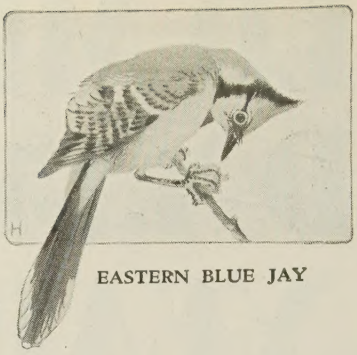

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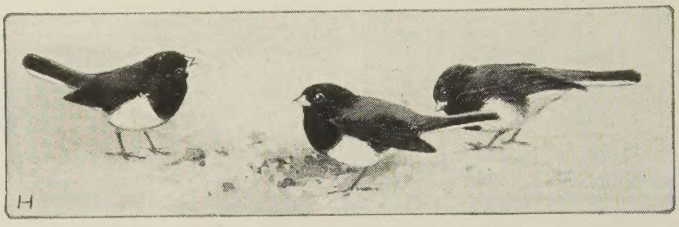

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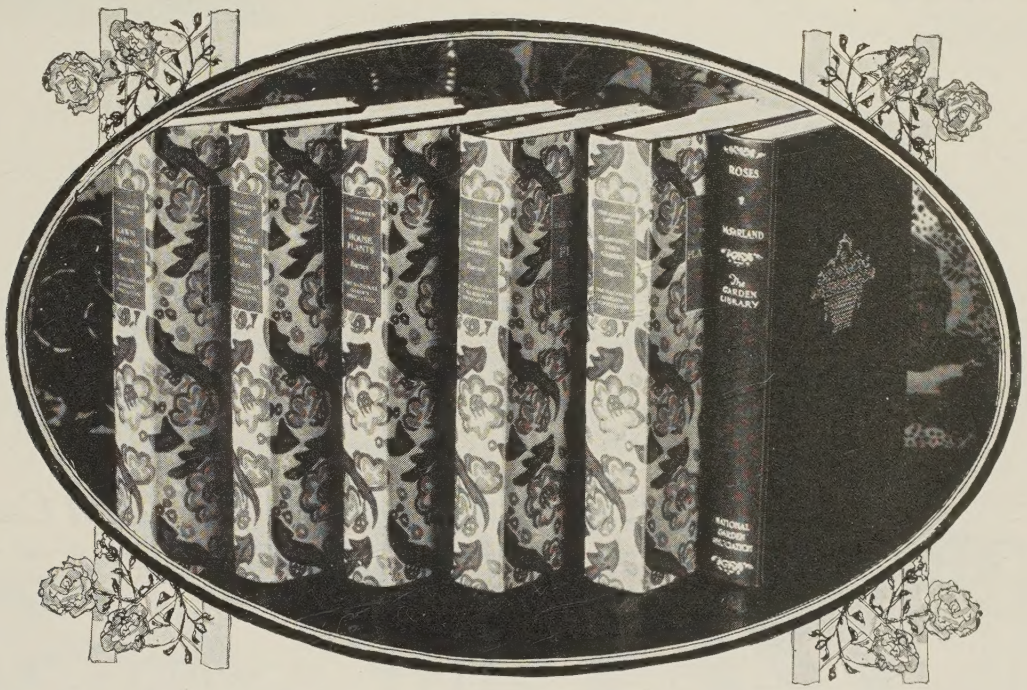

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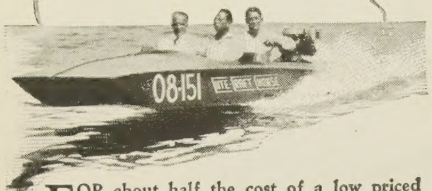

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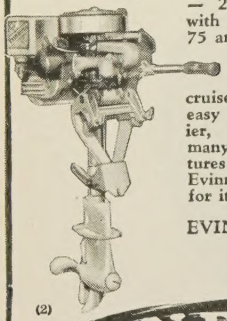

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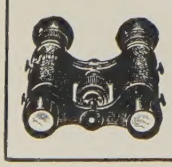

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Dancing Badgers

Dancing bears were once quite the thing in Europe, but the dancing badger seems to be restricted to his cage at Mammoth, in Yellowstone National Park. N. F. Joyner, Park Ranger, who writes of him, says that in response to the command—"dance, dance, dance"—this little badger, one of two badger inmates of the animal quarters, will,—if it feels like it,—bob its head upward, lifting its forefeet off the ground, and continue the bobbing for some seconds. Sometimes it will roll over at the end of the performance and come up to the bars for human applause. Its companion in the cage does not join in the terpsichorean endeavor, however, when humans are present, although it has been known to practice occasionally when alone.

Guides and Protection

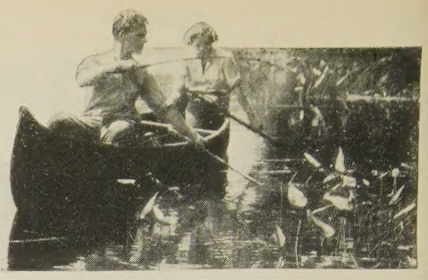
The Athabaska Guides' Association, recently organized by the guides and outfitters of Jasper National Park, Alberta and surrounding districts, are taking active measures to preserve game which abounds upon the borders of the park and which hitherto has been intensively hunted. Headed by Jack Brewster, himself an outstanding hunter, they hope to have recognized by all hunters a periodically closed season in certain areas, and to take their hunting parties to new areas, rather than cleaning out the old ones. Their step is one of the most progressive in conservation made in Canada recently, and should be most effective.

Preventing Epidemics

To prevent bird and mammal epidemics, sick specimens are being sent to the Hooper Foundation in San Francisco, California, by their finders, so that examinations may be made, and all steps taken to prevent general outbreaks of disease. Dr. K. F. Meyer is in charge of the work, and Dr. H. C. Bryant, of the Fish and Game Division, is cooperating to arouse the public in assisting in this medical work.

Sammy the Pet

The pet of Yosemite's new hotel, the Ahwahnee, is a fish who is not so poor, who has a predilection for having his back scratched, and whose aristocratic moniker is Sammy. He was once a two-inch wild trout, but grew tame and larger after being placed in the Jasper Pool of the Ahwahnee Solarium, and now spends the sunny afternoons basking near the surface of the pool while pampering guests pat his back and feed him rare fish delicacies.



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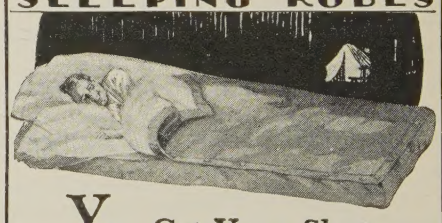

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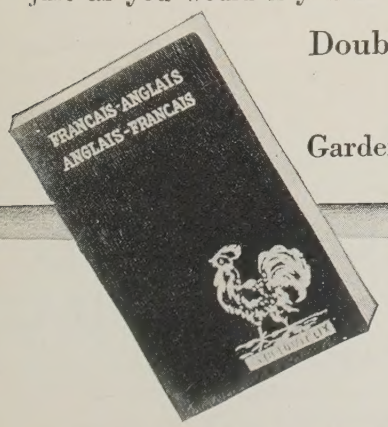

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APRIL is the month when one begins to plan for the coming summer vacation or to decide definitely on a spring holiday after a busy and, perhaps, frigid winter. For the latter, of course, trips to Carolina resorts and Florida in the East and to the Southwest and California come specially to mind. This is the time when all is pulsing new life in sub-tropical climates; flowers are blooming in profusion and those who live in the colder climates can have their spring and summer sooner in this way. This department will be happy to assist, with material and suggestion, those who are planning early spring vacations.

* * *

In the May issue of Nature Magazine our readers will have brought forcibly to their attention that great summer playground,—New England. To take its place beside the popular California issue of last October, the May issue will be devoted exclusively to the outdoors of New England. It will stir in the hearts of all those who have family roots in our northeastern states the urge to go "home" for the summer, and will lure all those whose loss it is not already to know New England. Let us help you with any advice we can give.

* * *

To secure a distinctive name for the single-room sleepers operated on its lines between Montreal and Toronto, the Canadian National Railways has adopted the term "chambrette". The word is from the French and means "small room", aptly describing the accommodations provided. As the "chambrette" cars are not Pullmans, being built expressly for the Canadian National, the name is not properly applicable to cars of similar type operated in the United States.

* * *

That European travel has been greatly increased by the tourist third-cabin rates on the trans-Atlantic lines is borne out by figures compiled for 1928 showing an increase of 35,000 over the number of passengers carried in this class during 1927. This popular, low-cost transportation was availed of by 7,000 more travellers on the White Star, Red Star and Atlantic Transport Lines in 1928 than in 1927. J. S. Mahool, passenger traffic manager of the International Mercantile Marine, owner of these lines, announces that several of their ships will be remodelled to provide more and better accommodations for tourist third-cabin passengers before the season opens.

* * *

Visitors to the Pacific Coast will not wish to miss a delightful one-day trip from San Francisco, to be taken at any time of the year. This is the ascent of Mount Tamalpais. After crossing the Bay to Sausalito, the ascent is made via the Mt. Tamalpais and Muir Woods Railway, "The Crookedest Railroad in the World". Mount Tamalpais, 2592 feet in elevation, rises more commandingly over the low surrounding country than many loftier peaks, and affords a

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EACH March, for many seasons, eminent soloists have given recitals in the Vernon Room at Chalfonte-Haddon Hall. The pleasant tradition will be continued this year, with the following artists participating:

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superb panorama of ocean, bay and shore, with the snowy Sierra Nevada in the background. Muir Woods National Monument, named for the great naturalist, is usually visited on the return from the summit, via the famous Gravity Cars. This glorious stand of redwoods contains luxuriant ferns and beautiful flowers, clustering at the feet of the trees, themselves thousands of years old and fifty feet in circumference. The Union Pacific runs three fast trains to San Francisco over the famous Overland Route.

* * *

Starting with the inauguration of a new President, just held, Washington will again become a mecca for visitors from all parts of the United States and other countries. Various tours and special rate offers are made by the railroads directly and indirectly feeding the Nation's Capital. Full information can be obtained by writing this department.

* * *

To promote the interest of American teachers and students in the special summer courses arranged by European Universities, the Hamburg-American Line has established an educational bureau, through which information and details of the various courses, their cost and other attendant considerations may be obtained. The increasing number of teachers and students making tourist third-cabin trips to Europe for the summer has created a demand for such cultural advantages, and anyone planning such a trip should endeavor to be fully informed.

* * *

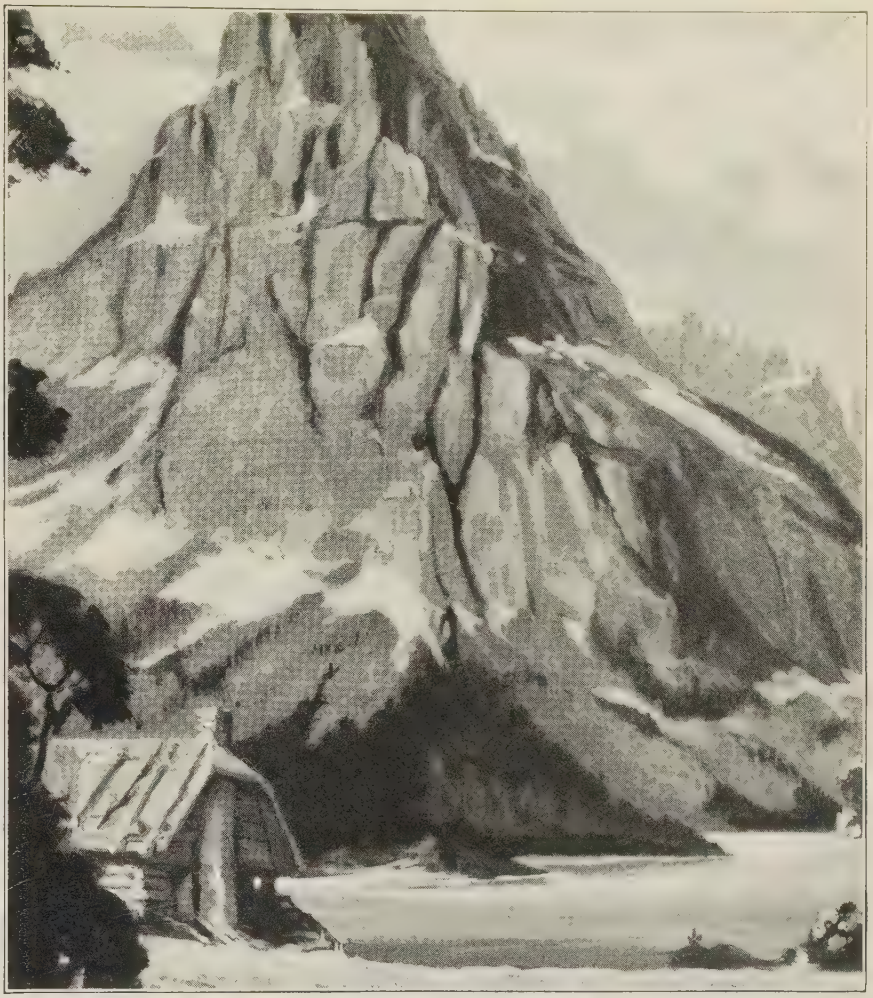
Readers of this department should not overlook the unique wild life tour to Glacier National Park under the auspices of Nature Magazine. The tour is fully explained elsewhere in this issue and all details are contained in a prospectus which will be mailed on request.

Washington Conservation

"Help Conserve Our Greatest Garden"—meaning the garden of the great outdoors,—is the slogan of the active Washington State Society for the Conservation of Wild Flowers, led by Mrs. Alexander F. McEwan, chairman. Christmas was hardly out of the way when Mrs. McEwan began a campaign to have holly berries saved for the replenishing of the State's famous stock. The society, a member of the Garden Club of America, distributes lists of flowers especially needing conservation aid, and works very effectively in the schools. If Washington is to continue to be the "evergreen state", it will be due largely to the efforts of this group.

How Blotting Paper

Blotting paper, replacing sand as an ink dryer, was accidentally invented by the carelessness of a workman who forgot to put "sizing", the material furnishing the surface for paper, in the mix at a paper mill in Berkshire, England. The lot of paper made was ruined, in the opinion of the owners, until one of them tried writing a letter on a piece of it. It soaked up the ink, and the owner soaked up an idea—why not use it for drying ink? Thus of carelessness was born an important aid to humans, but it took the imagination of a thinker to realize the possibilities which arose.



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Photographic DEPARTMENT

How useful is a telephoto lens in Nature work and can one be fitted to any camera?—R.A.B.

The telephoto lens is a very desirable adjunct to the outfit of any Nature worker, but it has its limitations, the principal one of which is its slowness compared to the speed of an ordinary lens.

Of course we all know that a telephoto lens is made up of two lens systems—the positive lens, for which any good photographic lens working at a fairly large opening is suitable, and a negative lens which may be single or double. Therefore the lens which we are using in our regular work will do for the positive system, but the faster it is the better.

The only advantage in the use of a telephoto lens is to gain size in the image of more or less distant objects. Owing to the fact that instantaneous exposures are practically impossible with it, except under the most perfect conditions of light and at a small magnification, it is almost useless on a hand camera and of very little use in work upon moving objects. The exposure necessary to obtain perfectly exposed plates depends entirely upon the amount of magnification for the time required by the positive lens alone multiplied by the square of

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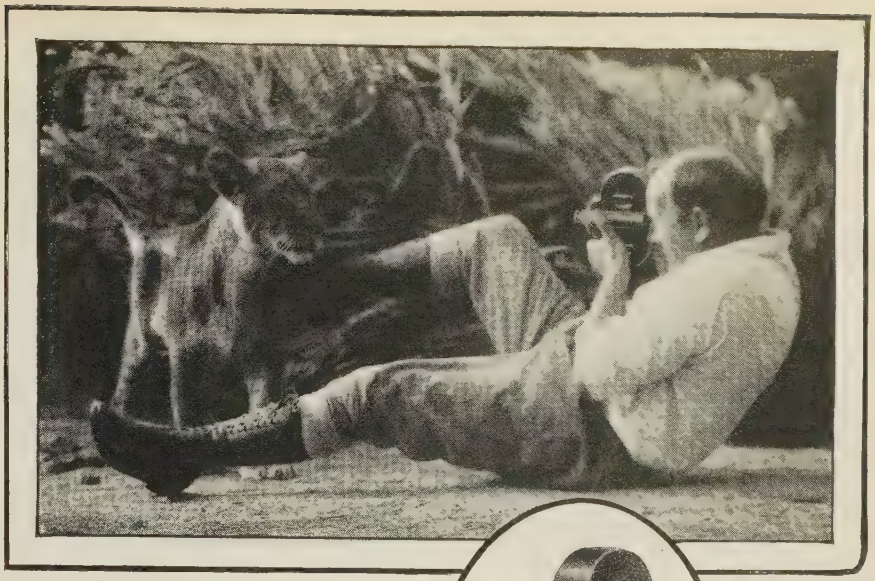
the magnification in use. Thus if the positive requires one second with a particular stop and a magnifying power of three is used nine seconds should be given with the same stop. Thus it may be seen how much slower the telephoto is when compared with the regular lens.

The size of the image made with the telephoto lens depends entirely upon the extension of bellows used, for it has a variable focus and will give a sharp image at any camera extension equal to, or greater than, the focal length of the positive lens. The size of the image increases proportionately with the bellows extension but also,—and this is a point to remember,—the speed of the lens decreases in the same ratio. Therefore the larger the image the greater the length of exposure necessary to a well-timed negative.

A telephoto lens can be fitted to any camera that has a bellows extension at least equivalent to the focal length of the positive element used. One of the disadvantages, however, of this type of lens is the fact that, owing to the magnification of the image, the slightest vibration spoils the definition. It must be remembered that these lenses are very much heavier than the ordinary lens and, therefore, the camera must be held much more rigidly. It is, as can be readily understood, almost impractical to use them on a hand camera, although they may occasionally be used on a graflex and, as I have said, under the very best conditions of light and at a small magnification. When used on a tripod camera the tripod should be of the most rigid make and, if the extreme extension of bellows is used, in order to obtain the largest magnification, it is well to have an extra leg adjusted as a further support under the front end of the camera. Properly used, and under favorable conditions a negative made with a telephoto lens should be almost, if not quite, as sharp as that made by an ordinary lens of the same equivalent focus. The slight difference in the sharpness, if any, is never noticeable in a contact print but may sometimes be so when a considerable enlargement from the negative is attempted. Altogether I should by all means advise any serious worker in the realms of Nature to include a telephoto lens in his outfit. He will find times when it will be absolutely indispensable.

Owners of 16 mm. projectors who have read the articles and seen the pictures by William L. and Irene Finley in Nature Magazine will now welcome the news that releases of the Finley Wild Life Films will be available in the home movies size through the Bell and Howell Company. The pictures made both by Finley alone, and by Mr. Pack and Mr. Finley on the camera-hunting expeditions, were made with the Bell and Howell Eyemo with the trusty Filmo helping out when opportunity offered. No better wild life motion pictures have been made than the Finley pictures. Watch for these releases in *Filmo Topics* or write to this department for information.

In the equipment of most amateur movie makes is to be found a telephoto lens, invaluable for ordinary work. It has other uses, however, one of which is best described as "Closeup Telephotography," or the taking of moving pictures of small objects, such as insects, and affording an enlargement in projection.



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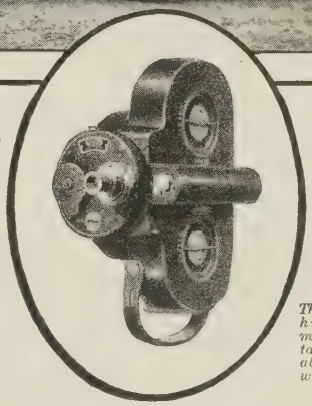

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NATURE CALENDAR

APRIL

by E. Laurence Palmer

APRIL is a month that one hardly dares trust. You step out for a few minutes thinking everything is fine and the next thing you know you may decide that you will do your Naturing some other day. Of course, a few hardy souls will see the program through, but many will not.

Since this page is designed to appeal to all let us suggest that we try a little front porch Nature work for this April and see what we can see. We may see even more than those who plow through mud and water.

The first sunshiny day of April may bring a number of flies from their winter hiding place. They sleepily crawl about trying to get up enough "steam" to venture on a flight. Some of them may succeed. The flies frequently are accompanied by a few lady beetles that have "holed up" like the bears in some crevice. If the flies are conservative about flying, the lady beetles are ultra-conservatives. One thinks that they are really going to take the chance but instead they make a few erratic stretches of the wings and return suddenly to status quo.

Spiders, too, make their appearance on the front porch in April. Among these are surely the little black and gray jumping spiders that seem to ask you to put your finger on them solely for the sake of showing you that when you put it down they are somewhere else. If you look closely at these spiders, you may detect the large claspers which distinguish the males from the females. I know of few phenomena in Nature more interesting than the manner in which jumping spiders leap for their prey and swing back to safety because of the anchor silk they spun as they leaped.

If one feels adventurous or takes a journey under the front porch in search of stored flower boxes or other equipment it is almost certain that the trip may provide a goodly quantity of spider webs—probably those of the house spider. Strange as it may seem these spiders may be found active at surprising times of the year. Just warm them up a bit and they seem ready for anything. Probably somewhere in the spider webs collected may be an egg cocoon or so. It might be interesting to open one of these and see if the little spider cannibals have begun their lunch of nice fresh brothers and sisters.

It may be that a little search will show some mud-dauber nests or some paper wasp nests tucked away more or less out of sight. Some of them may be those abandoned the previous year. This makes them safer to study and no less interesting, I assure you. A journey into the homes of any of these little cliff-dwellers may have as many thrills and dangers as journeys into the abandoned homes of human cliff-dwellers of the past.

Of course, one cannot watch a porch through the month of April without finding it being explored by a bird of some sort making preliminary surveys in real estate. Last April, my porch was so surveyed by a robin, some sparrows and a phoebe. The phoebe investigates every year but always decides on another place under the edge of the roof. I have seen starlings and pigeons prowling around porches and roof edges in our largest cities with all the seriousness of my little phoebe.

The phoebe, of course, does not make its appearance from the South until it has a chance to get a living from some flying insects. April supplies these with surprising abundance. The male tussock moths begin their fluttering search for the wingless females that are crawling slowly up the trees of the front yard even before the snow is off the ground. Too few of them are caught before they succeed in keeping their tryst.

In April, if I am lazy, I can sit on my front porch and listen to bird calls almost as well as I could with my feet soaking wet and with water running down my neck. I can watch the erosion of late spring snow-banks and can see in them hills, valleys, flood-plains and almost all of the other land forms I have learned about. I can do this and hardly get out of the chair in my living room. I admit all this but just think what I miss if this satisfies me. As a matter of fact these things merely whet my appetite for more.

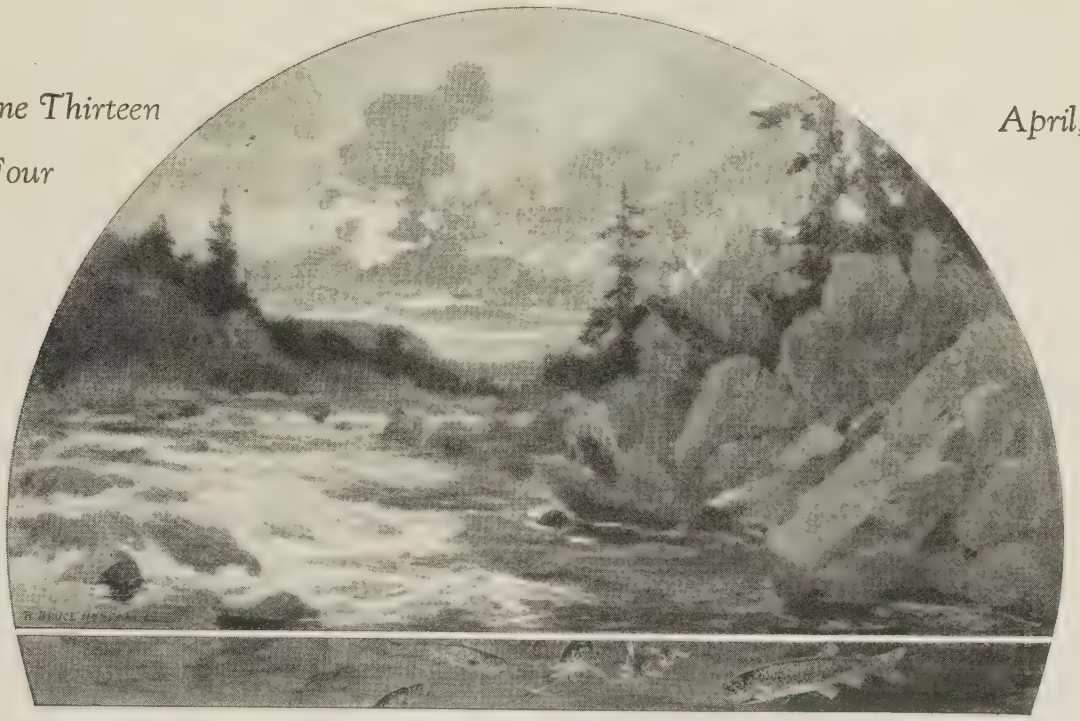
THE North American Moose, antlered monarch of the wild, son of an ancient dynasty of the forest with its birth in ages long agone.

NATURE MAGAZINE

Volume Thirteen

No. Four

April, 1929



ABROAD *with* APRIL

When a Sunrise or Sunset May be Your Catch

by Ben Hur Lampman

Illustrated by R. Bruce Horsfall

For most of us a fishing rod affords an admirable excuse to be abroad with April. It is, perhaps, not susceptible of proof, yet I, for one, am of the firm belief that fishermen who go a-fishing in this month of poets and anglers actually outnumber the trout they hoodwink. You may say, if you are not among them, that the ratio must needs be discouraging, since it is evidence of lean sport and unprofitable days. This, however, is to leap at a conclusion as rashly as a young rainbow leaps at a mimic fly, for the truth is that the heft of the creel is but the half of it, and that there is a certain weariness at twilight which closely approximates contentment. You may be sure that a creel is not dedicated to the carrying of trout alone, or of sundry items of gear, but is constructed as well for the freighting of memories.

We delude ourselves with the thought that we return to Nature because of the zest that is found in hunting or in fishing, and we would testify on the moment that a dozen of trout, capably taken, are of more importance to us than sunrise on the stream, or any or all of the delights of an April morning. But this is wide of the truth, as may be judged from the reluctance of fishermen to take fish that are penned up for them in concrete ponds, by gentlemen who seek to make a profit out of an old and very honest instinct. The fact is, there is no zest in such angling, since from it has been subtracted the soul of the recreation itself, leaving little save a stupid commercial transaction. Gentle old Izaak knew the heart of a fisherman, as many fishermen do not know their own, and he would be first to tell you—as, indeed, he has—that it is possible to catch a mirrored cloud with a neat cast, and to keep it thereafter in memory of a fine day.

There is innate in man a profound though stifled

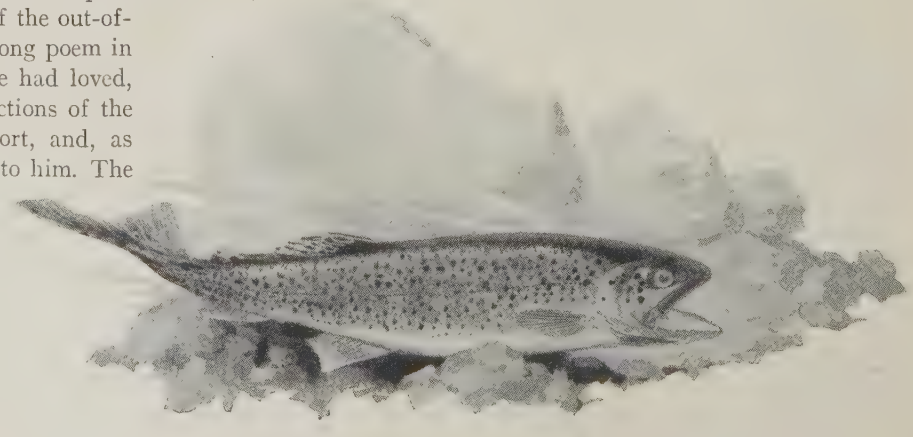
dissatisfaction with the civilization he has created, with its comforts, its conveniences, its arbitrariness. It was not so his fathers lived, and the shadows of his fathers whisper to him ceaselessly. Because of this he has a restless foot, that itches for the soft silence of pine needles, the roughness of a river bottom, the vital mud of marshes—and more particularly when April comes. He is wistful at times. This creature who is so sure he has made a conquest of the world, so convinced of his indispensability to the scheme of things, finds in himself a hunger—and the hunger is for the old days. It will not be fed with the comfits of civilization. It desires new skylines and rough fare. It is not true that the trout the angler captures is of greater moment to him than the scene of his return. It is not true. The two are mingled inseparably.

"THE BIGGEST CUT THROAT LEAPED. THE TERROR HELD HIM"

How friendly, as of old custom, is the pliant softness of the laced boots one draws on when he sets out to meet with April. Standing upright in them, he knows somewhat of the satisfaction King Arthur knew when in armor—for if they are heavier than the calfskins of the commonplace, they are strangely lighter, too, and are "a proud burden". What a warm and pleasing glow of self-reliance courses the veins of the April adventurer, when he is attired in the garb of the out-of-doors. Rupert Brooke wrote a long poem in praise of the common things he had loved, that had aroused minor satisfactions of the simplest and most primitive sort, and, as such, had endeared themselves to him. The smoothness of a peeled willow, for one; and for another the comradely roughness of flannel. Such affections as these are readily understood by the children of April—who, one is glad to report, are greatly in the majority. I take it that no man ever has possessed treasure who has not loved the gear and garments of those recreations which summon men away from the town—an ax that balances nicely, keen of blade, a coat of many pockets, a dependable knife, a rod on which some careful craftsman toiled, a camping kit of amazing compactness, the dainty beauty of trout flies, each destined for its riffle or its eddy.

As to what an angler catches that is not to be classified by Dr. Jordan, the very diversity of his catch baffles enumeration. To land both sunrise and sunset is nothing unusual, and yet always memorable, no matter how often these be taken out of the pool of sky. But in April, when the world is stretching after months of slumber, there is comedy to be had of the brown and golden honey bees that tumble and roll in the sand beside the stream, still sleepy, much befuddled, but eager to be abroad. And many a brave bud glistens with varnish, and catkins dangle, and in the swamp the newts are turning lazily, so that their orange stomachs glint through the leaf-brown water. The distant, mellowed bugles of the wild geese . . . a note to quicken the sluggard blood, and throw back the head, and fill the eyes with longing. As arrows in flight, out of the mists, glimpsed, now gone—a brace of mergansers, and the head of the drake an emerald, and his breast faint rose. Ephemerae are dancing above the stream. And in their ecstasy they descend, brood after whirling brood, the dark cliff that was their nursery—down, dancing down, until wings of gauze touch the white water, the weave of currents. And bright and swift as light the trout strike them, and certain of the gay throng are seen nevermore in their brief day.

April of the tears. We have advanced a great distance, yet happily, and there are trout in the creel. Here are no trails, but only the thoroughfare of the chill stream, pent by its canyon, the somber conifers marching down to the very brink. The April sunshine spills between the cliffs, and rests in warmth on the worn rocks . . . and from far off a muffled heart beats in increasing tempo, is silent, then beats again. A ruffed grouse. There falls a shadow on the river, sudden as the pounce of a falcon. It is coming on to rain in the hills. The purple vanguard of an April shower marches upon the mountains. The clouds send a breath before them—cool and grateful as spring water. One by one they storm the heights, carrying in misty assault the citadels of the range, blotting



"ANYWAY, WHO ARE YOU TO REMIND ME OF IT, YOU GRUB-HUNTING SPAWN OF UGLINESS?"

them out, conifer and crag. On the clean breeze is borne the first drop, the skirmisher, striking the uplifted face. The sun is blind. It is false evening in the forest. Now the tall larches toss and sigh, and the countenance of the stream is silvered by the shower, and a great trout leaps. It is gone, driving eastward, the sun is himself again, and the rocks steam. Beyond controversy this is the greenest of all forests. Its breath is vital. Is the glint of rain on fern a trivial catch to bring to one's creel . . . in April?

I am minded here to peer beneath the surface—for it is my feeling that we are about to take a most respectable trout—to scan the depths of these glacial waters, and by permissible fancy, if you will be so good, discover something of the mystery which lies beneath. Not all will be fantasy, for it is known to every angler that trout are thoughtful, prudent creatures for the most part, and that the episodes of their occasional undoing are not unlike the mishaps that are told of men, for all the greater sagacity of the latter. Bend over this pool, therefore, until you have made him out . . . the dark bulk of him, the slow, unhurried movement, the obvious self-assurance of a fine fish. We shall choose this fly. A short cast, well placed. Recover it. Now try the break beyond the log.

* * * *

"It is the end of Winter and bottom feeding," piped the Littlest Rainbow, waving his variegated fins in the striving currents. "Yesterday I took a yellow fly, with white whiskers, just one jump below the dam." With a flirt he raced upward, nosed a bit of speeding flotsam and returned. His elder comrades opened and shut their jaws derisively.

But the sneer of the Biggest Cut-throat was patronizing and positive. The scarlet slashes on his white jowls bloomed vividly as he turned toward the youngster. From tip to tail he wriggled his thousand freckles in mirth.

"Who taught you that trick, fingerling?" he jeered. "To strike at a sodden leaf! A yellow fly yesterday? I have my doubts, I have my doubts! All rainbows are stupid, as my mother said." He drifted, with scarce a movement of his bright-hued fins, to the side of the Littlest Rainbow. "Soon or late," he taunted, "you will rise to a lure and leave us."

"It was play." The Smallest Rainbow did his best to be bold. "A leaf and nothing more. I knew it, respected sir, before I rushed." "Faugh!" the big trout coughed, gaping till the pointed pearly teeth rows were ominous. "When I was a fingerling—"

"IT'S A BLACK GNAT AND THE SEASON IS ON"

"Yes, when you were a fingerling, I mind it well." The new voice was gruff. Out from the sunken roots, from a deeper lair than trout made, waddled the Crawfish. His beady, protuberant eyes glittered dimly, with a wary alertness, and he waved one knobby war claw in greeting. The Biggest Cut-throat, who might have gulped him at one grimace, prudently faced the pincers.

"What say?" demanded the big trout, truculently.

"I intended to remark that when you were a fingerling," pursued the unabashed and candid Crawfish, "you took a paltry spinner, a foolish shiny affair of brass, as all the creek knows. Pretty close to the creel then, oldtimer. You shouldn't brag!" He brought the war club down for emphasis. Twenty trout struggled with grins. The Biggest Cut-throat tried to look nonchalant.

"Oh, as for that, I knew it was a spinner all the time," rejoined the Biggest Cut-throat. "I was out for education—and I got it. The barbs came free and I slipped back to the pool just as he clutched me." But the spots on the big trout's sides darkened with choler. "Anyway, who are you to remind me of it, you grub-hunting spawn of ugliness?" Swifter than thought he flung himself at the Crawfish, his jaws wide. With a single inward stroke of his armored tail, the prey darted into a rock niche. Yet the war club moved menacingly from the threshold, and the beady eyes were fearless in the shadow.

"As I was about to say," carelessly resumed the Biggest Cut-throat, turning again, to the Littlest Rainbow, "when that ill-mannered ruffian interrupted me, there are many, many enticing morsels that are greatly to be avoided." He rolled a brown-mottled eye at the student.

"Uh-huh," agreed the Littlest Rainbow, with

"YOU TOOK A PALTRY SPINNER, A FOOLISH SHINY AFFAIR OF BRASS, AS ALL THE CREEK KNOWS"

eagerness. You learn a lot from these old-timers.

A shadow fell across the broad pool, a new path of darkness lay upon the bottom, a darkness that moved hither and thither, unlike the familiar shade of the trees. The Biggest Cut-throat lolled and glanced at it. His companions trembled with instinctive apprehension.

"Now, that, for instance, my small friend, might be a deer, or a cow—or a fisherman." The Biggest Cut-throat was deliberately oracular. "But, by my gills! it is less than nothing to me. Keep cool, fellows. If he uses the eggs of Mother Salmon, we may, with proper craft, strip them from the hook. Risky, of course, yet I have done it. Ah!"

In this article Mr. Lampman has caught the very feel and odor of April and transmuted them into words with the wonderful ability that is his. All who love the outdoors will be glad to know that there will be more of Mr. Lampman's stories than there have been during the past year.

Lighter than a dropping leaf, there fell a fairy fly upon the surface of the pool. Its wings were a maze of color, its tail filaments were silky iridescence, its body of plump, yellow seductiveness. The Biggest Cut-throat rushed, caught himself midway, and dropped again to his station.

But the Littlest Rainbow raced like a silver streak, straight at the prize. His fellows saw him grasp it. He was gone. They moved swiftly about, in agitation and alarm, watching the surface for the splash that should announce his return from the foray. The strange shadow went and came again.

"A Professor," commented the Biggest Cut-throat. "You needn't watch for him—he won't be back. It's a fisherman, sure enough."

In the foam at the foot of the dam there danced a creature of scarlet, with wings of white. The shadow moved, the enticement disappeared, to drop again at the very portal of the oak roots. Trout darted forth, gleaming with haste and hunger, and sped back in fear to the deeps of their pool.

"And that," observed the Biggest Cut-throat, "is a Royal Coachman, which shall not fool me twice. Watch!"

He launched himself with a powerful tail-stroke, upward at the dancing lure. His jaws were closed, nor did he open them to strike. Instead, at the instant of seeming capture, he whirled with a glimpse of snowy stomach, gave one derisive slap of the broad tail and left the silken feathers spinning in the eddy of his passage.

A cloud drifted out of the west and all shadows in the pool became one. For many minutes the trout waited the fortunes of the flood, but their awe of the Biggest Cut-throat's sagacity was theme for thought. Laxly he cruised about.

All saw it when it dropped, an unpretentious fly of black, somber as night and faithful to every tradition of trout lore. The Biggest Cut-throat tensed on his sentry-go, and flung himself past the speeding free companions. "It's a Black Gnat, and the season is on!" he gasped, and struck.

The pool was turmoil. Frightened trout fled from the savage descent of the Biggest Cut-throat, racing, twisting, fighting in every lithe muscular inch at the dark cheat that clung to his scarlet jaw. The brothers of the Littlest Rainbow dashed downstream, over the tinkling riffle. Dead leaves spun anew in the roiled water of the pool.

Once—twice—thrice, the Biggest Cut-throat leaped. The terror held him. The vigor of his rushes waned. And so the episode of the Black Gnat drew to its close, and he lay gleaming on the new grass of April.

The pool grew quiet again.

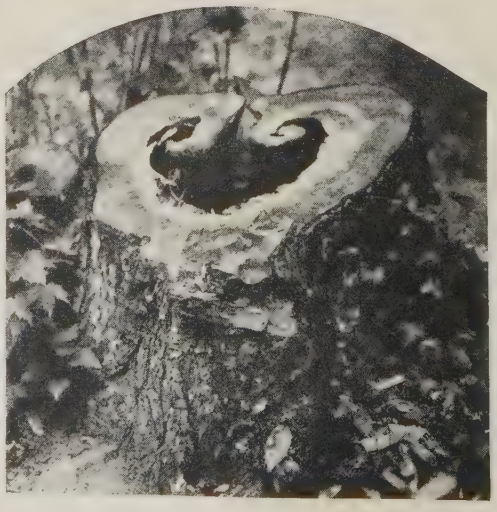
* * * *

There is, as has been said, a weariness at twilight closely approximating contentment. It is very good to have been abroad with April. Some few trout, perhaps; and one of a very respectable girth and length. No more than this? Why, sir, it is more than enough, and it is less than half of the catch, far less. For I take it that a fishing rod is but a device to lead us, attached to the butt, where otherwise we might not wander, and where one is virtually certain of catching weightier fish than trout. Do not laugh at the zeal of an angler. He is apt to be asking you if ever you hooked, played and landed a sunset in moody April, beside a hill stream.

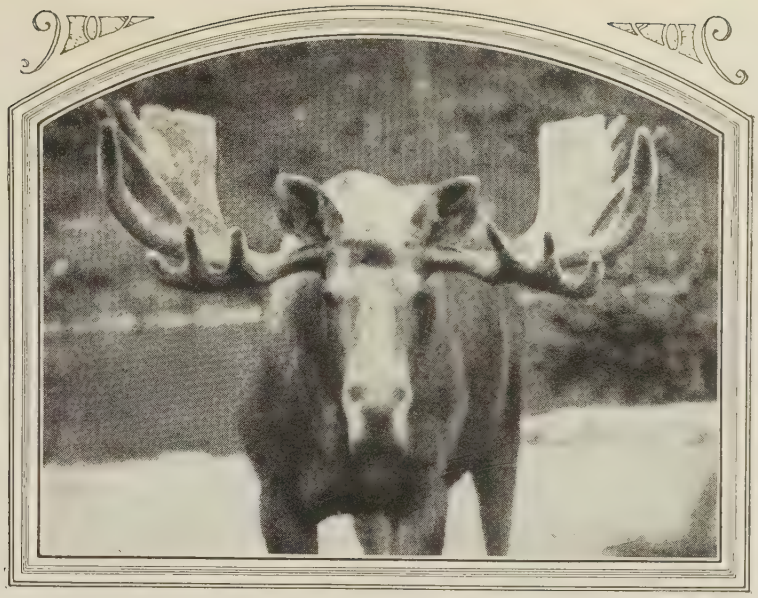
And if you have not done this, my dear sir, where have you been during these thirty days? Hibernating?

NATURE'S VALENTINE

Did Some Dryad Carve This Out?



WHEN the microscopic forces of destruction set to work upon the sturdy heart of this oak, they seemed to work with a plan, for when they finished, another heart, as artistically done as if some human had lent a hand, was designed within the doomed tree. Or perhaps some dryad, locked within, carved out the emblem in honor of her queen. Then came the ax and saw, and the favorite token of St. Valentine was revealed. The photographer was Clarence Asbill of Columbia, South Carolina, and the picture was sent in by Mrs. Crosby Adams, who lives in the House-in-the-Woods, at Montreat, North Carolina. Odd, is it not?



TO CHARGE OR NOT TO CHARGE?
The moose engaged in a conference with himself on the next move to be made

TOO MUCH MOOSE

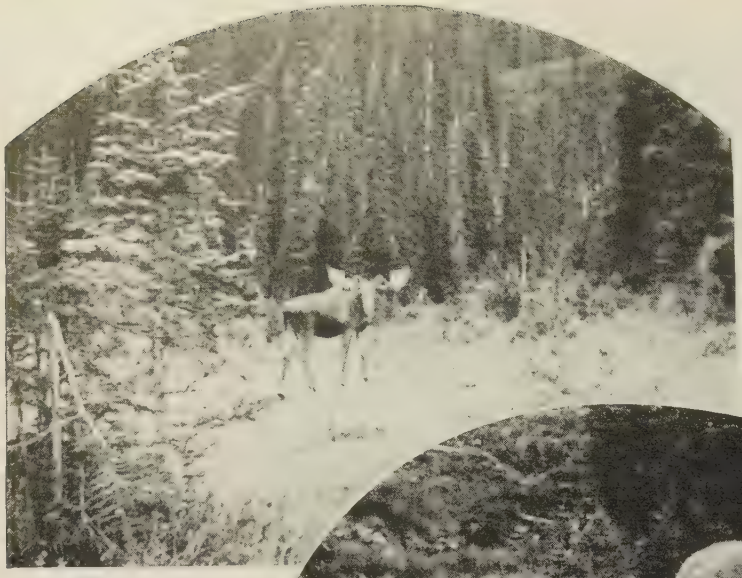
The Story of a Tremendous Thrill and a Bad Scare

by Arthur Newton Pack

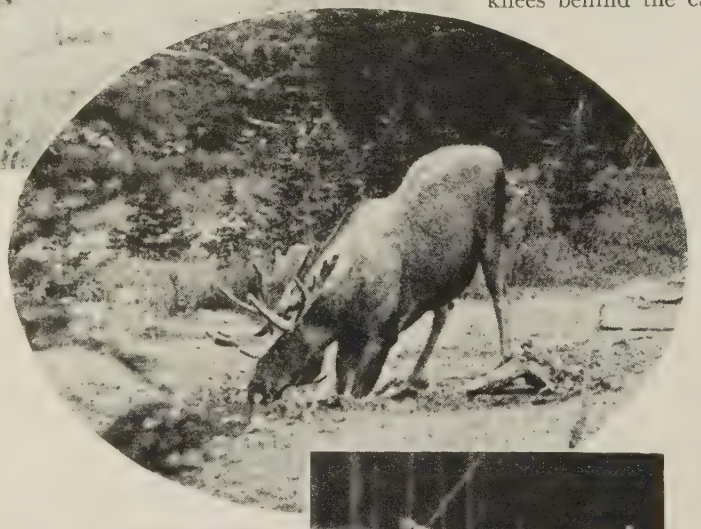
Illustrations by William L. Finley and the Author

The members of the American Nature Association camera hunting party in Glacier Park were confronted by a large bull moose not five yards away. The question was—would an uninjured bull moose charge? And they found out—well, read the story and learn for yourself.

SCOTTY is still a fire lookout in Montana, but he narrowly missed becoming an actor in Hollywood. It all began at his tower one August morning when we came to inquire about moose and took Scotty's picture instead; and now one more forest ranger dreams of seeing his name in bright lights. The lookout tower was on a ridge above Bowman Lake and commanded a wide view of the forest-clad mountain slopes, where some day a little wisp of smoke would galvanize the watcher into action with his plane table, his map, and then the telephone. Scotty could also overlook the meadows and sloughs at the foot of the lake, and morning and evening he might descry through his glasses ungainly specks which detached themselves from the fringe of forest and moved cautiously into the open. Scotty knew moose. He told us of one he met on the trail last spring—a big bull. That day Scotty's telephone rang in vain, until the chief ranger put on his snowshoes and started out to express in person his definite opinion of lookouts who weren't on the job. He found Scotty up a tree, but the tracks in the snow substantiated Scotty's tale, and the black mark for neglect of duty was withdrawn. Then Bill Finley countered with that story of the big bull moose in Alaska that "got" young Church, and altogether we enjoyed a harrowing morning at story swapping.



"WHAT'S GOIN' ON OVER THERE?"



"MY LEGS ARE SO LONG I'LL HAVE TO KNEEL DOWN TO REACH THIS POOL"

"NOW LET S SEE WHAT THAT FUNNY NOISE IS AND WHAT'S UP"

There is a telephone at Skyland Camps connected with the fire ranger system. It's one of those telephones that ring and ring every known combination of longs, shorts and sputters. We sat just outside the cabin every morning and evening, listening to the wrong combination of rings and hoping, hoping for that message from Scotty about the specks in the slough. We refused to believe that Scotty was watching and hiked out to the slough to prepare a blind, anyhow.

A little way back from the river channel was a stagnant pool of foul water—a pool ringed about with moose tracks. Between this pool and the river was a little spit of land where several small trees grew, none of them over six feet high, and about these we decided to build a blind by adding additional boughs. It was not a difficult task and soon complete, leaving a central area large enough to conceal the three of us, provided we did not attempt to stretch out our legs simultaneously. Pine squirrels performed antics in the young lodge-pole pines, a pair of mergansers with attendant fleet of ducklings sailed up and down on the quiet water beyond the tall grasses, a ground squirrel came out of his hole close beside us and whistled. No moose.

Next morning at dawn we spotted a white-tailed buck deer feeding in the marsh. From time to time he raised his well-antlered head from the long grass to eye us, but he seemed to consider himself safe. Later, as we were about to leave for camp, Bill took out his white handkerchief and waved it slowly two or three times. Now, the white-tailed deer, when alarmed, always raises his tail and shows the white hair on the underside, like a flag. Curiously enough, he seemed to identify the white handkerchief as this danger signal of his kind, for he immediately raised his own flag and made for the woods.

Four moose-less days passed and then at last the call came. Scotty had not forgotten. Our cameras, lenses, and tripods were all ready and, with hearts beating excitedly, we hastened off and crawled cautiously into the blind. Suddenly Bill's tense whisper broke the stillness, "There's a cow and a calf across the river in the woods She's coming out. Get ready. Steady, don't move; she sees something." We were now on our knees behind the cameras, motionless. The breeze was blowing directly toward us, and the cow scented no danger. The little clump of dwarf trees probably looked to her no different from the usual, and after a brief hesitation she trotted directly down the opposite bank straight toward us and plunged into the river, followed by her calf. The cameras buzzed. To our immense surprise, she paid no attention. Probably the noise of the water about her drowned everything else. On she came with the calf in her wake, out on the near bank, still directly toward the pool of muddy water and us. At one hundred fifty feet she seemed to sense some danger and swerved out of the

"UM, THIS CERTAINLY IS MOST PECULIAR"

range of my camera, but directly in front of Bill's, her towering form and long, awkward-appearing legs filling the finder entirely. She stuck out her tongue, glanced longingly at the pool and licked her lips, but the sound in the clump of firs indicated danger, and at seventy-five feet she turned down stream and began to trot with her youngster close on her heels. Now she had definitely decided to make for safety on the opposite bank, and again she plunged into the swift water, first stirring it into spray with her hoofs and then sinking down so that only her head and neck and powerful front shoulders protruded as she swam. The little fellow, a bull calf, tried bravely to follow her, but was washed part way down stream so that he finally made the opposite bank at a point below his mother. He caught up to her just as she made the edge of the woods.

"AFTER ALL, IT MAY BE AS WELL TO GO"

"BY GEORGE, SOMETHING MUST BE DONE ABOUT THIS OR I MAY BE CALLED A COWARD"

"PERHAPS I BETTER HAVE ANOTHER SIP OF WATER BEFORE I CHARGE THAT NOISE"

"BLEST IF I KNOW WHETHER TO CHARGE THEM, OR RUN, OR WHAT. WHAT ARE THEY?"

Everything had been duly recorded by the cameras, and we sat back, gasping and jubilant. This, we said, was the shot of a lifetime; and it had been our luck to get it. Bill and I lighted our pipes as a relief from the strain, and we all began to talk in low tones. The way that cow moose had bulked in our finders reminded me of the German who went out to take a picture of a bear in the Italian Alps. He had a ground glass focusing camera and a tremendously powerful telephoto lens, like a regular telescope. After many weeks of hunting, he saw a bear about half a mile away across the valley, set up his camera, threw the black focusing cloth over his head and began to focus. Suddenly the image leaped out sharply on the ground glass, and so powerful was the lens that the bear seemed to be charging right at him. The poor photographer let out a whoop, abandoned his camera, and ran; but the bear never even had the satisfaction of knowing how he had scared a man half a mile away.

It had been cloudy all day with threatening showers, and occasionally a few drops of rain. The lowering clouds would lift from time to time and disclose the mountain tops powdered over with fresh snow. About five-thirty we were cold and ready to head for camp, but Brownie produced three oranges and a sandwich and after a bite to eat we decided to stick it out for another hour or so. After about half an hour our patience was rewarded by the reappearance of the cow moose on the opposite bank. She stood at the trail opening, like a statue, looking straight at our blind, but occasionally she turned an ear backwards as if also listening to something behind. At last her timidity grew too strong for her, and she turned back into the brush along the river, through which we could get only an occasional

glimpse of her moving form. Again we waited. Then suddenly on the opposite bank I saw a grand old bull. He listened a moment and then came on.

"Look at him! He's coming down to the river. He's going in!" whispered Brownie.

Bill's rejoinder was to start his camera whirring. "Shoot! Shoot!"

"Look at the old son of a gun swim."

"My gosh! There's the cow and calf, too. They're crossing above us."

"Listen to him grunt; he's talking to his cow."

"Look out, here comes the big fellow. He doesn't seem the least afraid. He's making directly for us."

"My camera's out, Bill. I can't get him from this side of the blind!"

"He's looking straight at us. Are his horns still in the velvet? Will he get nasty and charge us?"

"My gosh, Bill, here's the old cow at the back door of our blind where we have no protection. The calf is with her. We're surrounded by moose."

A low nervous laugh. "Who said moose hunt!"

"We'll get more moose than we want in a minute. Hand me that camera without the telephoto —quick. Is the focus twenty-five feet or fifteen? That cow will step on us and drive us out of here. She sees us. What's she going to do?"

The cow and calf circled our blind within twenty feet at a trot. I tried to see where she went towards the river, but at that instant another hoarse whisper froze me to the spot. "Look! The old bull. He's swaying his head from side to side. I think he's going to charge us. Keep down! For heaven's sake, don't try to run! You haven't a chance! Quick, give me another camera; this one's shot."

"I can't; this one's empty too."

"Where's the fourth camera? Get it out of that case. Keep down, it's our only chance. Take off this telephoto, I don't need it. Hey! Isn't there any camera with film in it? Somebody's got to load."

"L-l-l-let me. M-m-m-my h-h-hands don't shake as much as y-y-yours do." Although Brownie's teeth chattered as badly as my hands shook, she was still game.

"See! He's down on his knees drinking at the pool, not twenty-five feet away. Look out, he's shaking his head and glaring. He can see Bill. He's an old fellow—grizzled and gray, and look at those antlers. The velvet is partly off. Our only chance is to keep down and try to keep cool."

It's no easy task to change film in a loading bag, with a bull moose twenty feet away and looking angrily in your direction, but luck was with me, and the sprockets all caught right the first time. Just as Bill's last foot of film ran out, I started to pass up the freshly-loaded camera, but could not move, or rather dared not, for the old bull fully realized that there was something suspicious in that clump of dwarf firs, and he had worked around until he stood opposite the back door of the blind. He must have been able to see me. At any rate, he began to sway his head from side to side again and grunted ominously. I had never heard a bull moose grunt; and if I ever hear one again as close as that, I hope it will be from behind the iron bars of a zoological park. Gradually he moved around back to the pool, and alternately drank and watched us. From my pose flat on the ground loading another camera, I could peek out between the narrow stems of our small shelter and see the enormous antlers moving to and fro. Once, during a comparative lull, he raised his hind foot and scratched his ear. He was now directly behind the blind and between us and the nearest shelter.

We did not dare work more than one camera, and besides I had to load film while Brownie changed lenses and passed things to Bill. "Look at Bill, the crazy fool," she gasped. "He's going out of the blind right where the moose can see him."

But Bill knew what he was about. Our best chance for safety seemed to lie in drawing the beast's charge—if charge he would—toward a camera mounted on a tripod in plain sight. We could then dive off into the bushes to the right and left while the animal would keep straight on toward the river and probably would not

(Continued on page 259)

GLACIER PARK TRIP

IN THE March issue announcement was made of the special, personally-conducted trip to Glacier National Park open to members of the American Nature Association and their friends in July, 1929. A carefully planned itinerary will enable all to see and photograph Bighorn Sheep, Rocky Mountain Goats, Deer, Bear, Marmots and many smaller wild animals. The party will be limited and details can be obtained from the Travel Editor. See Page 238 this issue.

MOTHER AND CHILD WERE CURIOUS ALSO
They paraded for the film while the party was waiting for something else to happen

HERE THE TREE LABORATORY
Brooks and glens abound on the site of the National Arboretum, and attractive wild life inhabits them

The NATIONAL ARBORETUM

Long a Dream, It Becomes Reality to Aid Reforestation

by Alma Chesnut

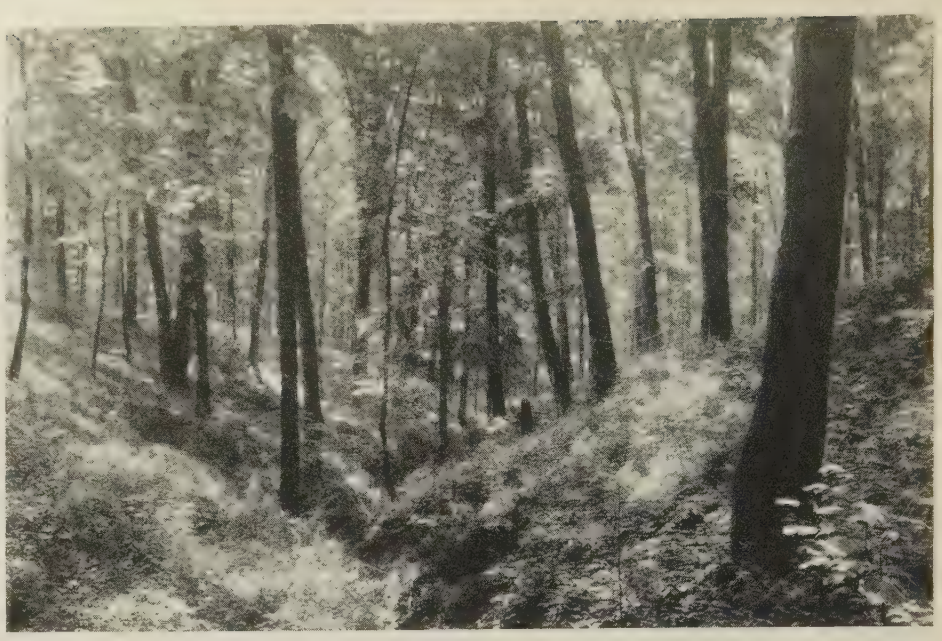
Two miles from the Capitol building in Washington, skirting a highway that pulses to the ceaseless tide of traffic, there lies a stretch of forest land which, somehow, has escaped the builder's axe. Here grow in their ancient splendor groves which once knew the red man's step, and spread their mantle of green the length of the broad Potomac, before ever the City was.

By a strange play of circumstances, this tract, four hundred acres in extent, is destined to play a unique rôle in the drama of reforestation, representing by proxy those vast denuded areas in the North, Northwest and South, which the Federal Government now seeks to restore. As soon as title to the land has been perfected, the Department of Agriculture will establish here a National Arboretum, or, if you will, a great outdoor laboratory, wherein scientists will conduct experiments in breeding and growing trees and study the qualifications of immigrant species for admission to this country.

For more than a century the Government has been considering such a garden, but not until recent years has its importance seemed paramount. While other nations have been cultivating botanical gardens and arboretums, the United States has procrastinated, secure in the knowledge that countless acres of virgin land were at its disposal to exploit when and as it wished. Great areas were set aside as national parks and forests and millions of acres only awaited cutting to supply the timber needs of the growing republic. Man-made gardens seemed of trivial importance.

How the situation gradually changed is an old story that need only be mentioned. The forests were carelessly mowed down by those bent upon converting trees into lumber and lumber into gold; not even the giant redwoods of California—trees which exist nowhere else in the world—were held sacred. Relentlessly, without thought of the day when it might be necessary to replant by artificial means the areas that were being laid waste, Civilization, moving westward, made its mad attack upon the wilderness.

When the country finally awakened to the realization that something ought to be done to repair the damage, the Government took elaborate steps, mobilizing for the task the newest tools of science. Rangers guard the forests today and lookouts, stationed on mountain peaks, or cruising in airplanes, continually watch the horizon



WHERE OAKS AND MAPLES THRIVE UNTOUCHED

Such knolls as this, marshlands for waterlilies, deep quiet groves—all combine to make a perfect aboretum for the nation

for the first tell-tale wisp of smoke that means that somebody's campfire, carelessly extinguished, or somebody's cigarette, tossed to the wayside, has started a million dollar conflagration.

Campaigns of education have been undertaken, and trees have been set aside at forest stations, where they are made the subject of special studies. Desolated areas, which Nature herself would have replanted had her appeal been respected, are being reforested painstakingly to make amends for earlier vandalism. But this has not been enough.

As the work of reforestation advanced, the need arose for expert scientific advice on various problems. What trees, or what strains and species of the different varieties, were best suited for certain areas? What varieties grow the fastest? Tree planting, it developed, is an expensive proposition and one that represents a long-time investment. Today's crop cannot be harvested for thirty or a hundred years. Cannot some species be developed that will mature in twenty years? Great arid stretches exist where trees have never grown. What soils will produce the best yields of our native trees, and what kinds of foreign trees are best for certain soils? These are but a few of the many questions with which the Government has been bombarded and which it proposes to study, once the arboretum is established.

The tract selected lies entirely within the boundaries of the District of Columbia, almost within walking distance of the Department of Agriculture buildings. It is situated between the Bladensburg road, leading to Baltimore, and the Anacostia River, adjoining another large tract of about four hundred acres, already owned by the Government and available as an addition. Several round-top hills, nearly all wooded and covering in themselves about eighty acres, are included, the largest, "Mount Hamilton", giving the site its name. Between Mount Hamilton and Hickey Hill lie old farmlands, and, to the East, along the river, are marshes whose rich growths of wild rice formerly furnished sanctuary to native and migratory birds.

Experts who have examined the site carefully pronounce it ideal in every way for an arboretum. It has thirty different varieties of soil, almost every variation possible, and exposure to the sun from all points of the compass, so that scientists may grow trees that have the most exacting requirements. In addition, the geographical location is superb for growing a variety of trees. The garden will be midway between the North and South and in this halfway zone both trees accustomed to rigorous cold and those that best like a long semi-tropical summer will flourish. In this respect the site is far more suitable for a "tree garden" than that of the famed Arnold Arboretum, in Boston, where the severe winters forbid the cultivation of many southland species.

Even in its present wild state, the bit of forest, which Mount Hamilton has been guarding jeal-

IN A FERN GLEN

Thirty varieties of soil support a rich selection of trees, with a luxuriant growth of shrubs and numberless lesser plants

ously through the years, would be worth saving. All along the highway from Baltimore to Washington towns and farmlands are strung, a deadly procession of dreariness. A thousand billboards point the way, telling you what to buy and where to spend the night, but scarcely a patch of woodland is left to carry a message of beauty and repose to the traveler. This tangled patch of loveliness,—neglected, unkempt—is perhaps the one spot that still allures.

Sinuous pathways, tracing through the thickly clustered trees and down to the water's edge, tell of those who know and love its vaulted, quiet recesses, and have turned their steps there often when Nature beckoned. Here are groves of oak, with the soft rich mold underfoot; fine trees from three to five feet in diameter; hickory, tuliptree, sweetgum and tupelo, a score of native hardwoods; willows that bend over quiet pools; wild berries to gather. Woodland flowers spread their carpet in the glades and except for a faint sound of tumult far away, one might imagine himself miles from any city.

OVERLOOKING THE ANACOSTIA RIVER

Pleasant vistas, attractive to Washington visitors, will enhance the reforestation class-room

These admirable trees will constitute the groundwork of the arboretum collection, which will be extended gradually to include all American species that can be made to grow on the site, and other trees, imported from distant continents. Each specimen will be labeled accurately, like an exhibit in a museum, and thus will the garden serve also as a "Bureau of Plant Standards" for the nurseryman, who long has needed an irreproachable authority for the identification of his plants.

In addition to work in cooperation with the Forest Service, scientists attached to the arboretum staff will seek to develop disease and pest resistant fruit and nut trees and strains that will bear fruit earlier. They may also experiment with paper trees. No doubt they will cultivate some of the native American varieties for decorative purposes—the wild sweet crab, for example, which some believe might prove as beautiful as the Japanese cherry. The Franklin tree, a lovely American species now nearly extinct, and many other plants, too, well loved, will also find sanctuary in the garden and a point from which they could be distributed anew.

The National Arboretum will be unique in many respects among all gardens of the world. Not every site combines hills with marshlands that are suitable for waterlily farms. Not all are dedicated to science. The development of the arboretum along the lines that have been mapped will place the United States in the front rank of the gardening nations of the world.

Of course, it cannot be said that this country has been without any national garden these many years, but its venture on the thirteen-acre plot adjoining the Capitol grounds seems puny in comparison with England's beautiful gardens at Kew; the Jardin des Plantes, in Paris; the famous Koiskekowa Gardens, of Tokyo, and the two-thousand acre botanical garden at Rio de Janeiro.

Gardens such as these are of ancient tradition, dating their origin to the earliest days of plant culture. The oldest recorded seems to be the "Medical Garden of Mathaeus Sylvaticus", established at Salerno, in 1309, for the cultivation of medicinal plants. The first botanical garden, as we know it today, was founded in Padua, in 1533. The Jardin des Plantes, of Paris, had a somewhat frivolous origin. It was established in 1597, "to supply the bouquets worn at court", but, from this beginning, it developed into one of the world's most beautiful gardens. Scarcely a civilized country exists today that does not have at least one national garden.

The United States Government has means beyond any other nation to found a garden to rival in beauty and usefulness all others. And it has the gardeners and the men of science to bring it into being. If the plans go forward as they should, the National Arboretum will prove a mecca to scientists and garden lovers, not only from this country, but from many foreign lands.

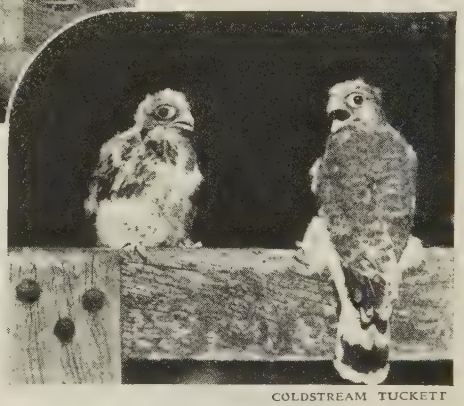
Some time in the course of the current year every member of the American Nature Association will receive an editorial questionnaire on which are a number of queries designed to aid the editors in shaping the policy of Nature Magazine. To those readers who have already received and filled out these questionnaires so helpfully we wish to express our appreciation. Also may we hope that all will fill these out with their frank opinion.

JOHN BULL'S BIRDS

by L. Raymond Talbot

THE RUINS OF KENILWORTH

Where blackbirds, redbreasts, song thrushes and others perform for tourists. At the right are young kestrels



COLDSTREAM TUCKETT

"Oh to be in England
Now that April's there"

WITH all due respect to Browning, I prefer May. When it behaves properly, it is the finest month of all, especially on John Bull's island. It burst out this year with the beauty and freshness of a June bride, so we went across the Channel for a few weeks. Of course, being bird lovers, we flew; but that is another story.

It is always interesting to get people's reactions when they have visited both Paris and London, and have had the opportunity to compare the two cities. Naturally, some prefer one, some the other. And there were differences of opinion in our party. Certainly London is different from Paris in many respects; this much we can say without taking sides. The historic sites which abound in London make a special appeal to Americans, and grip any visitor who has the least particle of romance and imagination in his soul.

We went repeatedly to Westminster Abbey, and soon formed the habit of going from there to St. James's Park or Hyde Park. Here is the real English life, untourist-ized, very natural. We enjoyed watching the ducks, too. Most of them were tame, to be sure, but it was a good opportunity to get acquainted with tufted ducks, pochards and the rest.

We found blackbirds, song thrushes, redbreasts and some other birds here and in Kensington Gardens, just as in the Tuileries Gardens and the Champs Elysées at Paris. The Bois de Boulogne has no counterpart. There is Hampstead Heath; but somehow it does not seem to have as many birds,—perhaps because it is more frequented,—and it is farther out than the Bois. So our bird list for London was not so extended as our previous experience in city bird life had led us to expect. Still the small parks which one comes across most unexpectedly all over London gave us a bird song now and then. And we duly appreciated the breathing places, green and tree-clad, between streets and behind the houses,—in most American cities only ugly alleys exist in such environs. Behind our hotel we heard our first English blue tit, and from our window we finally saw him in the upper branches of a tree feeding as contentedly as if he had been away in the country.

Windsor Castle was another matter. Wagtails flitted across the gardens. Swallows, house martins and swifts crisscrossed over our heads. Windsor Great Park, stretching away to the south for a mile or more, attracted us strongly. We were almost tempted to slight the castle itself for the sake of having more time out there on those magnificent meadows and under those great oaks.

COLDSTREAM TUCKETT

THE WILLOW WREN APPROACHING HER NEST

One of the common English birds that welcome visitors with one of the sweetest songs of all

Here we saw an owl, which sat up in a tree and blinked at us in very owl-like fashion. "Why, that looks like the same owl I've seen so many times adorning textbooks", said one of our party. "Yes, it's the owl of Greek literature and sculpture and all that,—the bird that typifies Pallas Athene and wisdom", said another. Those were only guesses, but when we looked up our bird in the book they

This is the third of a group of four articles by Mr. Talbot, bird lover and traveler. The fourth article,—on birds one will find in Switzerland, will appear in the June issue. Readers going to Europe this summer should take the issues containing these four articles with them.

AT STRATFORD-ON-AVON

Many new bird varieties dwell in the "park" near this old country house. The razorbills at the left were discovered on the coast

R. P. GAIT

proved to be correct. The little owl of Britain, as he is called, is of a different sub-species now,—he has been living in England so long that he has developed traits of his own, just as a person would,—but originally his progenitors came from Greece, and you or I could never see any difference between this loyal British subject and the solemn owl of our Greek histories.

Stratford-on-Avon, Warwick and Kenilworth; it is useless to start any description of these places of hallowed memories, so familiar that they seem almost like home. Warwick was the finest castle we had seen. The famous peacocks, which strut about on the trim lawns, received their due attention. Those who bought peacock feathers of the gardener at a shilling apiece concluded after carrying them a few days that they had been a little too attentive. Even the most ardent bird lister could hardly count these peacocks on his list of European birds; they are even more domesticated than the ducks in the London parks. Still, our interest in birds is not limited to the making of a list.

We knew perfectly well that Cambridge University deserved far more than a brief visit, still there is a limit to the time one can spend anywhere, even on a leisurely trip like ours, and one has to choose. So we tried to content ourselves with one day at the old institution. After visiting several colleges, the library with its splendid art collection, and the matchless King's College chapel, one of the most superb bits of Gothic architecture in existence, we went out onto the backs, those beautiful lawns which slope down to the river,—after about so much gazing at buildings and architecture, history and art, one becomes just a bit weary and wants to rest his eyes and mind for a while. In the ivy along the river two or three wrens were singing. Redbreasts and other common birds entertained us. These redbreasts, the English robins, are a different sub-species from the French birds; the English bird is redder underneath, the French, more yellowish. Individual American robins of the same sub-species vary from yellowish to near a real red,—there is just about the same variation between the English and French "robin redbreasts".

We liked Cambridge better than Oxford. That is a very unorthodox thing to say, but why not tell the truth? I believe those backs at Cambridge are the real reason for our preference. They add immeasurably to the attractiveness of the various colleges, and create a certain atmosphere which seemed lacking at Oxford, for all the beauty of the fine old "quads" and Magdalen College tower seen from the river.

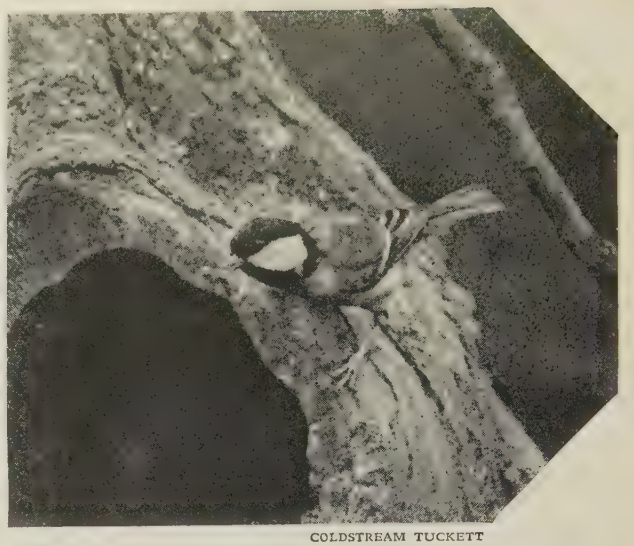
From Cambridge we went on to Ely for the night. Ely cathedral is one of the finest in England. Sheep and cattle were grazing in the magnificent "close", or yard, not too near the church yet near enough to help form just the sort of scene we have always pictured. They created a Gray's Elegy effect.

COLDSTREAM TUCKETT

MAY IS THE BEST MONTH FOR NIGHTINGALES

Their song exhausts the stock of superlatives, with its minor, plaintive strain that lingers long

At Ely we first became really well acquainted with jackdaws. Our attention was attracted to them by their call. "Purple martins", said someone, then added, "they can't be; that call is too loud and coarse, even if there were any



COLDSTREAM TUCKETT

WHAT TO SEE IN ENGLAND

All visit famous Ely Cathedral (below), but bird lovers also find the red-backed shrike feeding youngsters in Surrey and the great tit entering her nesting hole. And these are but three of many attractions

over here, but it does sound a little like the martin's notes". There was no difficulty in tracing the clamor to the big crow-like birds which seemed to make the cathedral towers their headquarters. The jackdaw's gray head distinguishes him easily enough.

Rooks abound everywhere in this country, taking the place of the carrion crows which one sees all through France and elsewhere on the continent. Both are as like our American crows as birds separated by three thousand miles of water could be.

Just why anyone should especially desire to have a large number of rooks or crows roosting in the trees around his house is a thing I cannot explain. But many Englishmen do consider a large and vociferous aggregation of rooks to be a very necessary part of a country estate. Whence comes the work rookery,—a word, by the way, which is often abused in our country. It really means a roost of rooks, yet is used for almost any colony of birds, and even seals have plagiarized the name for their breeding grounds.

Ely will always be associated in our minds with the green woodpecker, which performed beautifully for us in the close while we were watching the jackdaws. Not a new bird, of course, for we had seen two or three in Paris, but they are not at all common, and they are so striking that they seem worth mentioning every time we see one. Every new one has all the aspects of novelty.

"How many want to get up early tomorrow morning for a bird walk out on the Fens"? Of course we all did; we decided long ago that we can sleep any time after we go back to America, so we never let a little thing like the need of it interfere.

A bird walk on the Fens means skylarks. What a chorus we did hear, as soon as we had left the village with its rather dingy rows of houses and reached the open meadow! Skylarks were mounting into the air on every side,—a dozen of them sang at a time. Naturally, we tried to recall Shelley's and Wordsworth's odes to the skylark, and managed between us to recite as much as a dozen lines! However, we re-read both poems later in the day. Neither actually describes the skylark's song. Both, however, put into words something of the effect that the song has on the hearer who must stand enraptured and amazed at that marvelous outpouring of song which continues minute after minute till he wonders if the bird will ever stop. For subjective writings, these poems gain their purpose as few other poems of like nature do.

The skylark is not much to look at,—he is a plain brown bird with a slight crest,—but when he starts up into the sky, there is no mistaking him.

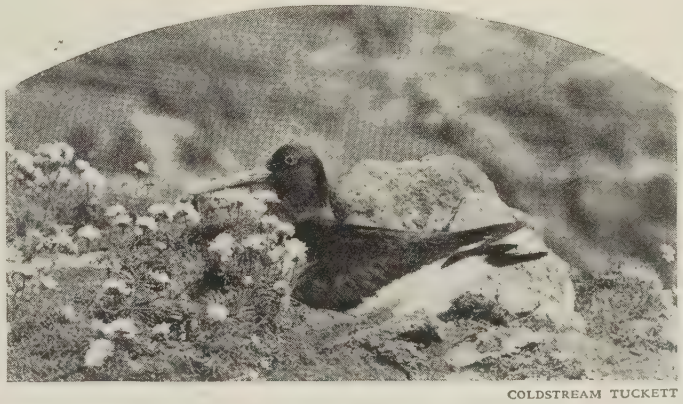
We added another striking bird to our list that day. "See how that bird hovers away up there in the air like a sparrow hawk", said one. When it came down we saw that also in plumage it resembled our handsome little

American falcon. The English call this hawk the kestrel.

The European sparrow hawk is an accipiter, similar to our sharp-shinned hawk. Our ancestors would have shown better judgment if they had named the common falcon which they found in the New World the American kestrel, and used the term sparrow hawk for our common small accipiter. There are many misleading names in bird terminology.

"A little bit of bread and *no* cheese", is what the books declare the yellow hammer says. Well, with a good deal of imagination we were able to hear something not too remote from those words as we walked between the hedgerows and beside the wheat fields. It was rather a wheezy song; sometimes it reminded us of our savanna sparrow, and again we thought we detected something of the prairie warbler's quality. Not that savanna sparrows and prairie warblers generally sound at all alike, but this resemblance proves that variety and even individuality exist in bird songs. The yellow hammer is a bunting, with yellow head, throat and underparts; the upper parts are reddish with more or less brownish streaks. He is a pretty bird, and easily examined as he flits along close to the ground.

The corn bunting's song is not unlike the yellow hammer's, and probably he is often overlooked because of this similarity, and because he is an inconspicuous brown and yellow. Then, too, he keeps pretty well hidden among the grain,—except when he perches on a telegraph wire to sing. He sounds as if he were jingling a bunch of keys. What a song!



COLDSTREAM TUCKETT

THE OYSTER CATCHER ON THE NEST

Just go to England pleasure bent, and the birds will entertain you well

Pied wagtails were numerous. They are attractive birds, with bold, swinging flight, calling somewhat like their relatives, the pipits, as they fly, then alighting beside a stream or stagnant pool to feed, while constantly wagging their long tails. These pied wagtails of England are clad in contrasting black and white; the white wagtails, more common on the continent, are gray and white.

"Look at that house sparrow with the brown head", said the one who is always first to see the fine distinctions. (In England the birds we Americans rather ungenerously name *English* sparrows are called *house* sparrows). A house sparrow with rich brown all over the head? That could be nothing else than a tree sparrow, a bird we had hoped to see, but hardly expected to, as the books say it is hard to pick him out in a flock of the more common "English" sparrows, whom he closely resembles in many ways.

Canterbury drew us next. The cathedral is the center of attraction. It was to Canterbury that the pilgrims of Chaucer's *Tales* went, to visit the tomb of Thomas à Becket. We were also greatly interested in the Dickens associations. David Copperfield went to school in the cathedral close, and some say Agnes Wickfield's house, where he lived, can still be seen. The immortal Micawber used to put up at the Sun Inn, which is still standing not far away.

"He promised to buy me a knot of blue ribbon to tie up my bonnie brown hair", goes one verse of an old song. That is just what a bird seemed to say to us as we stood on a hill outside the town enjoying a glorious sunset. Oh, I do not claim that every

WHERE SKYLARKS AND YELLOW HAMMERS SING

Along this picturesque English road you hear bursts of melody and much animated color

word was quite as distinct as that,—perhaps we did use our imaginations a bit! But the song had exactly the lilt which would compel you or anyone else to inevitably put it into those words. It was a hedge sparrow,—a prominent clear gray line over the eye helped to identify him. Hedge sparrows are not sparrows at all, but really much like nightingales and robins,—English robins, of course,—although their sober brown and gray plumage makes them look like sparrows.

The best part of our stay in England was our week at the Punch Bowl Inn, among the Surrey Hills. I shall always be grateful to the two Englishmen who told me of this earthly paradise. They were on a botanizing excursion in the Alps, and I was "birding"; we had enough in common to keep us talking for two or three hours at a little hut on Faulhorn, where we had stopped for a light lunch.

Primroses, cowslips, wild hyacinths and bluebells, and all the other flowers that the English poets have made familiar to us were at their best; all the countryside was gay. As for the inn itself, the very name suggests the old "Merrie England" of the novelists. I do not know that Dickens ever stayed there, or that he ever mentioned it in any of his stories. But he might well have. It is exactly the sort of hostelry that he describes. We had our own private sitting room, besides our bedrooms, and our own fire when the evenings were cool and when showers drove us indoors. And how we did eat! Four meals a day; breakfast, dinner, tea—those English teas!—and supper about eight o'clock, when it seemed as if we could not put away another mouthful after all the bread and butter, cake and jam we had consumed at tea time. We felt that we were actually in touch at last with the England we have known and loved through the *Pickwick Papers* and *Silas Marner* and other masterpieces.

We had chosen this particular week to be there because we knew it was *the* time to hear bird songs. The nightingales were there in force. I read recently a statement that nightingales were scarce in England and hard to find. That was certainly not our experience in Surrey. They may be scarce in some parts of the country and perhaps we may have found the one spot where they are common,—we had heard some in Kent, however. They do not sing much after the first of June, and since most tourists go to England in summer, they are sure to be disappointed when they expect to hear the nightingale's song. Perhaps the writer of the above statement was a summer visitor. The nightingale is an elusive bird, shy, retiring and sober-colored, so that when he is not singing one who is not familiar with him probably overlooks him.

As for our party, we heard nightingales, day and night. Several sang in our garden and across the road, and we heard many more, every time we took a walk.

I really think, as others have said, that the nightingale's song is inferior to that of our hermit thrush or the veery. It is sad, rather plaintive. For some time he sings in a minor key, holding one note; it is wonderful, heavenly, ethereal,—use all the superlatives you can and your description will still fall far short of doing it justice. Then suddenly the voice cracks, just like a human being's voice when its owner has strained it overmuch,—and it is all over. Still it is a splendid song, and if we had had no other fine experience at the Punch Bowl Inn, that alone would have repaid us.

Cuckoos performed for us most satisfactorily. They sound just as they ought to,—that is, just like their counterparts in the cuckoo clocks. They called all around us, and they were all alike; even the one that sounded as if he had a cold had the same notes as the rest. You are much more likely to *hear* cuckoos than to see them. When you do see one, you will probably take it at first for a sparrow hawk. It is a long, gray bird. We watched a young cuckoo being fed by its foster mother, a pipit. For you know the English cuckoo, like our cowbird, does not make a nest of its own and care for its young, but lays its eggs in the nests of other birds, where the baby cuckoos get most of the food and soon crowd out the smaller, weaker progeny of the rightful owners.

We saw a red-backed shrike on one of our Surrey walks. Its hooked bill and its known shrike habit of choosing a conspicuous perch to watch for its prey of insects revealed its identity. It is one of the handsomest birds we have seen. Its head and rump are slate gray, the back is warm chestnut red, and the black wings are edged with chestnut. While in Surrey we heard the chiffchaffs and our first willow warblers,—or willow wrens, as they are called, though they are not wrens at all. They belong to that bewildering family of warblers to which we had an introduction in Paris.

The chiffchaff's monotonous call sounds almost exactly like his name. The willow warbler, on the contrary, has one of the sweetest songs you will ever hear. Its soft notes go down the scale and there is more than a touch of sadness in them.

The first night we heard a short "oo, oo", followed by a long, beautiful, quavering "oo-oo-oo-oo" just outside the window. "A tawny owl", said the hotel proprietress when we asked her about it; "oh yes, they are quite common around here". And so we found them; every night after that we heard at least one or two, and we, to whom owls of any kind have always been few and far between, felt that this hoot added just the finishing touch to our life in the real country of old England.

Tourist travel with the bird study feature added was proving a success, we decided, as at last we regretfully said good-bye to the Punch Bowl and headed for London, thence to go back to the continent and on to Switzerland. What a great trip! Europe was wonderful.

I have loved the feel of the grass under my feet, and the sound of running streams by my side. The hum of the wind in the tree tops has always been good music to me, and the face of the field has often comforted me more than the faces of men.

—John Burroughs

ALBERT STEINER

WINTER IS OVER! THE CROCUS HAS COME!
Relentlessly this flower pursues the retreating snow-line. Who would not be at St. Moritz, now that April's there?

Blossom Time *in the* Alps

Mountain Flowers Riot Through Their Spring

by Paul François

It is spring time now, and April, in the Swiss Alps. Pastures blue and white with myosotis and umbellifer; woods that are symphonies in blue of hepatica and scilla and brown of the scrubby trees; slopes—delicate pastels worked in mauve and white by nodding violas and stately anemones. This is spring time, from Zurich to St. Moritz, from Lucerne to the Bernese Oberland and Geneva, mid the blue of the lakes and the gleaming alabaster of the snow-drifted peaks of the Swiss Alps.

Spring, however, came a month ago,—in March,—to the lowlands of Tessin, on the south side of the Pennines. Slowly it spread northward and upward; soon it will touch the passes and flirt near the edges of glaciers, during the last of May and in early June; right up to the snow line it will advance. There it hesitates, then retreats, to make way for the brief summer, and short autumn. Then again the snow will cover the traces of its upward march.

On the sheltered sides of the Alps, near Lake Lugano, the wild Christmas rose is in its short-flowering glory during the last days of March, and primrose, snowflakes, violets and periwinkles mingle in the color medley that surrounds the snug little villages. To the northward, the delicate fringed bells of the *Soldanella alpina,* sentries of spring, peer through the melting drifts on some warm slope. Then on the first patch of bare ground delicate crocuses arise like the ten thousand soldiers born of dragon teeth that Jason killed, and pursue the retreating line of ice-gnomes.

Easter time finds the larch tree, which in winter sheds its leaves, and stands stark and gaunt mid the whirling storms, re-awakening with a burst of emerald-green leaves, through which peep rose-red cones, and pale yellow staminate flowers. A pyramid of beauty the tree is a gay débutante, coming out in *la grande manière.*

April brings to the lowlands, up to the five thousand foot level, the army of anemones, with their long silky flowers fringed with yellowish-brown hairs and bedecked with large white petals. These flowers are the token of spring to the Davosers,—and they send them home in little bunches packed in moss, in which they keep for long periods. Through the entire spring they cover the mountain pastures in Wengen and Bernese

Oberland, and only die out with the coming of July.

By the time the visitors are leaving the higher Alps, and making their way down to the April resorts, the snow bells and lilies of the valley meet them in all their beauty at about the three thousand foot level, and the gentle narcissus creeps out in its delicate twin flowers beside the trails. Violets and tiny, dwarfed pansies cover the open mountain slopes, and mingle their shades with the brilliant yellow of arnica. Here and there small blue stars and large blue bells twinkle forth in daring reflection of the deep blue Alpine sky. It is time now for the beautiful spring gentians to sparkle amid the greening grass. And one may find, if he searches with care, Turk's head lilies, or perhaps one or two rare orchids.

By April, the southern slopes are in their greatest glory, and the symphony of spring has become more and more confused. Comes the wild garland flower, *Daphne cneorum,* and the dainty pink erythronium, and the lovely haze of peach blossom. The gardens burst forth in their new-created splendor with camellias, mimosas, edgeworthias and magnolias. Then the spring floral procession swells in a great blaze of azaleas and rhododendrons until, in the first days of May, it merges into summer's exuberant wealth. The fields become carpets of flowers; the hills blaze.

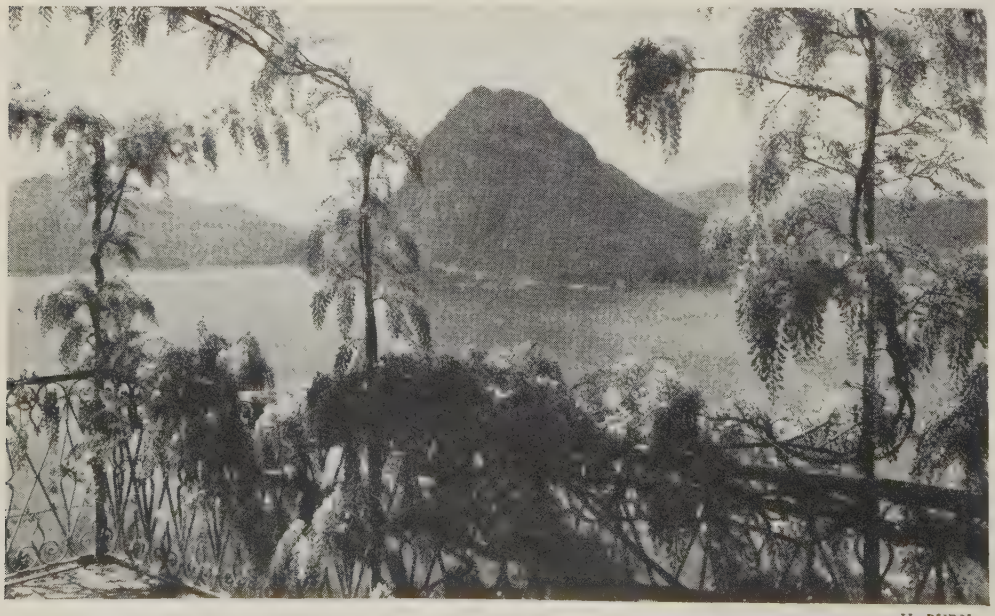
ALBERT STEINER

TOKENS OF THE SPRING

The brilliant yellow of arnica heralds April on the mountain slopes, and the army of anemones lingers into July in Wengen, Bernese Oberland

Slowly, slowly, yet with every day bringing forth new blossoms, Spring creeps up the heights, battling back the snows and ice. May is the time for the fruit blossoms near the Lakes of Geneva, Lucerne, and Zurich, Zug, and Thun. Cherry, plum, pear and apple blossoms riot through every village, dressing each like a demure bride. The pastures and the woods break out, too, in celebration, and Blonay, Vevey or any mountain town is a citadel being stormed by pressing, rioting ranks of flowers. The alpine and the sulphur anemones are strewn in thick carpets on the pastures about Davos; the upper slopes yield to the sun, and from the snows to the plains, color rules in strange, weird phantasies.

Summer descends full force on the lowlands, and the blossoms that were once anemones, narcissi and cherries are being blown with their fragrance by the soft winds. Then near Pontresina or Fextal or some other lofty valley, the Al-



H. RUEDI

GRACEFUL SAN SALVATORE

Framed by the touches of blossom time that make Lugano a world Mecca

pine edelweiss and the alpenrose peep forth. Acres of rocky ground suddenly flare with red; other bare tracts mingle the two flowers, or gleam like patches of snow in the summer sunshine. The edelweiss and the alpenrose are sometimes called the national flowers of Switzerland, and because they bloom at a time when the Alps are most visited, their fame has spread around the world.

During this hectic, kaleidoscopic period, southern Switzerland rivals the South of France in color lavishness, while in the central and northern sections, where a shorter time is allowed the blooms to show off their beauty, this country surpasses, in the opinion of many, any other region in Europe. Flowers know how to take advantage of the few days granted them, and how to catch the eye of visitors. Publicity seekers—all!

WHERE THE PILGRIMS FLOCK

Spring throws an enchantment around this old church, the Madonna del Sasso, at Locarno, on Lake Maggiore

Briefly does summer come to the higher ranges. Then the short autumn, with the long hedges afire in their brilliance of rowan berries and leaves, with wild strawberries, raspberries and red currants, with cranberries and bilberries, and with browning forests on the precipitous slopes. The products of the spring-time pass; the ice-gnomes begin again their march from their Norways, the snows come. A new Switzerland emerges, beautiful in its soft, shimmering garment, eager for the snow-shoe, the ski and the bob-sled,—and for the rare stories told by blazing firesides in the snug huts that do not bow to the winter wind.

A BOLD SHELL

It Poses As a Mandrake Blossom

by Jennie A. Russ

THIS peculiar "flower" was picked in "Somme Woods" Forest Preserve, at Northbrook, a suburb of Chicago. The shell, vacant and for rent, evidently lay in the way of the plant as it pushed up through the ground. Instead of smothering, the plant grew, and hoisted the shell up with it. The leaves of the mandrake coyly curled up inside the shell. The shell hung precariously seven inches from the ground when found. And the moral seems to be—just keep out of the way, or go up

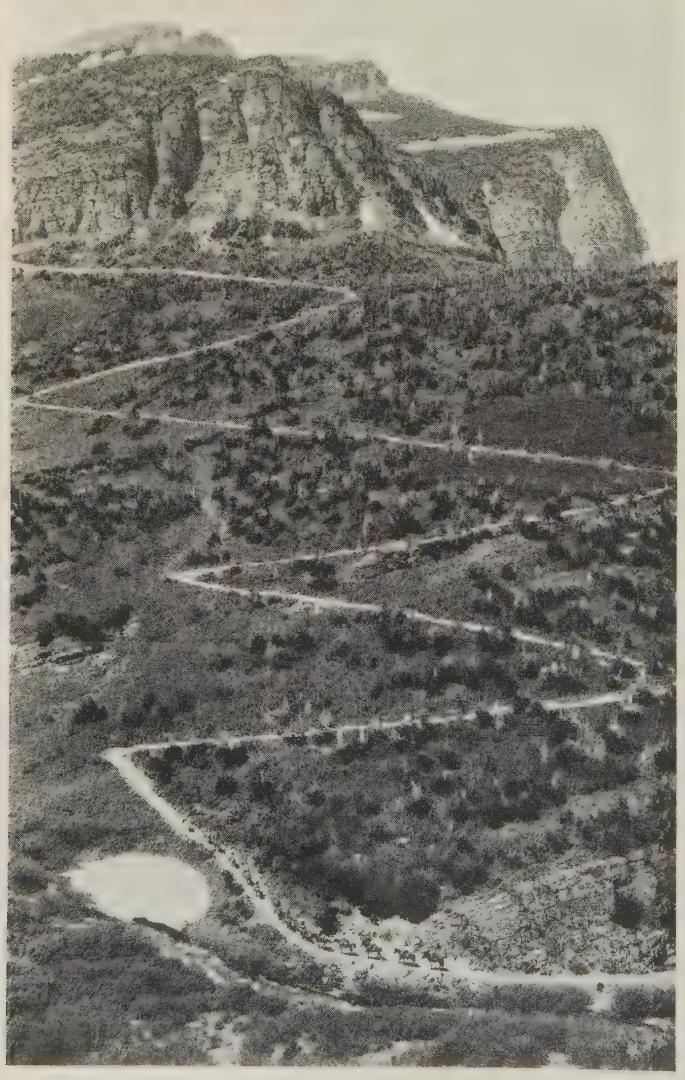
WHO CAN THOSE PEOPLE BE?
Bighorn sheep look down from their crags on the members of the Nature Magazine party

NATURE MAGAZINE *Arranges Tour to* GLACIER PARK

Itinerary in Brief of the Personally-Conducted Tour to Western Wonderland

A prospectus giving the itinerary in more detail and complete data as to costs will be sent on request. The parties will be strictly limited in number and it is vital that application be made early.

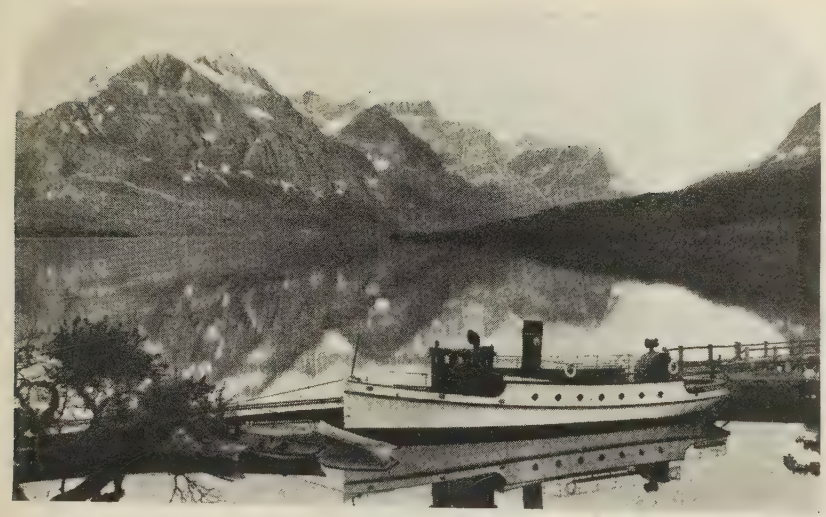
SWITCHBACK ON SWIFT CURRENT TRAIL
On the second day in the Park the party will make the trip up over this winding route



GLACIER National Park needs little introduction to readers of Nature Magazine so far as pictures and description are concerned. The Pack-Finley Expeditions of the past two summers have brought back a wealth of picture and story. There have been many letters of inquiry asking whether the number of people on the expeditionary parties could be increased by adding interested members and readers. This was manifestly impossible, but now, based upon the experiences of these expeditions and through the cooperation of Superintendent Eakin of Glacier Park and the National Park Service, a trip to the Park has been made possible. This tour will escape the hardships and inconveniences ordinarily a part of photographic trips such as Mr. Pack and Mr. Finley have made, but an itinerary has been worked out so as to give reasonable assurance of seeing and photographing at close range and in the wild state Rocky Mountain sheep, or bighorns; shy and fascinating Rocky Mountain goats; bear, deer, marmots, conies, ground squirrels, and many other mammals.

From Chicago to Chicago this unique tour will cover twelve days of remarkable outdoor experience (two weeks exactly from Eastern points). The eastern entrance of Glacier Park will be reached on the morning of the third day out of Chicago. There a special Nature Guide will take the party into the Park to Many Glacier Hotel for lunch. After an afternoon spent in the vicinity and night at the hotel, the party will leave by saddlehorse over spectacular Swift Current Pass to Granite Park Chalet for lunch. The fifth day will be spent in this truly wonderful locality.

The following morning to horse again (and no previous riding experience is necessary) to travel



LOVELY ST. MARY'S LAKE REACHED ON THE SIXTH DAY

After a trip over Logan Pass the party will stop here for a night at the chalet

A "WOOF" OF WELCOME

along below the Garden Wall and over Logan Pass to a chalet on the shore of upper St. Mary's Lake. The seventh day will be spent at Going to the Sun and the following morning the horses will take the party through lovely forests and beside rushing streams to a meadow opposite which stands Gunsight Pass. There will be a stop for lunch and perhaps a fly or two cast for the big cut-throat trout lying in wait below the ripples. The on and up and up to the saddle of the mountains from which we look down on Lake Ellen Wilson, born of an ancient glacier.

The day's destination will be Sperry Chalet nestled beneath the mountain wall. There a night and day will be spent and here the party will be joined by a Swiss Alpine guide who will lead the party, after breakfast, along the foot trail and up among the snowbanks to the foot of a ladder. An easy climb of a few rungs and one looks down on Sperry Glacier. Here is a favored haunt of the mountain goats and the picnic atop the glacier will be punctuated with clicking cameras and the whirr of reels in the amateur movie outfits.

On the tenth morning from the day of leaving Chicago the party will take the trail again and wind down to Lake MacDonald for lunch at Lewis's Hotel. There the horses will neigh goodbye and the party will be carried by automobile over the section of the Trans-Mountain Highway thus far completed,—a breath-taking road providing one of the world's most spectacular motor trips. In the afternoon, bags packed, the party will leave by launch or motor to the Great Northern Railway station at Belton, Montana. There we meet two fine trains, for Chicago and the Pacific Coast.

A MOUNTAIN GOAT TAKING HIS DAILY DOZEN ON THE SHEER FACE OF THE ROCKY CLIFFS

The party will see many such feats as this and enjoy the thrill of photographing them

CONIES WILL BE SEEN GETTING THEIR DAILY QUOTA OF VITAMINES

These interesting little fellows are among the smaller animals to be seen in Glacier Park and brought home on the film

ONE OF NATURE'S MOST GLORIOUS ACHIEVEMENTS ON THE SCENIC CANVAS

The Tatoosh Range, known as the American Alps, in Rainier National Park, Washington. In the foreground is a field of the cream-colored, spire-like blossom of the Indian basket grass

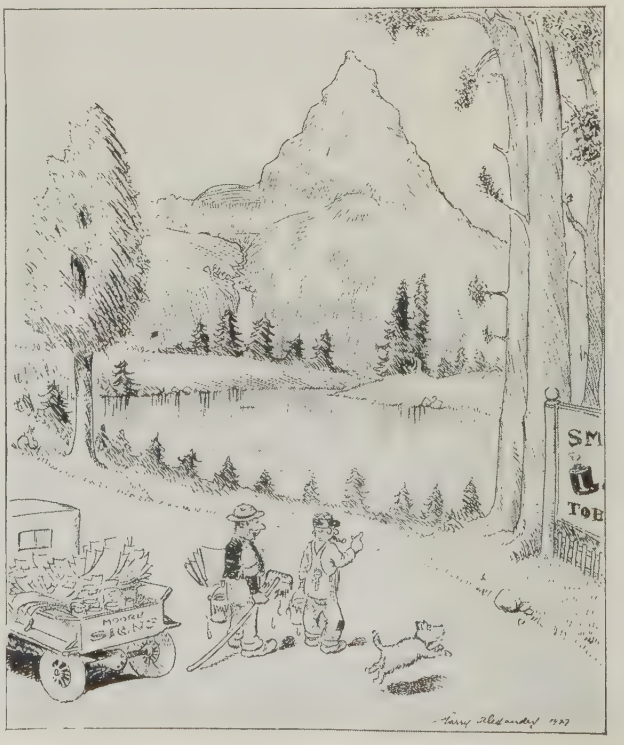
No Compromise

The Days of the Rural Billboard are Numbered

by Richard W. Westwood

THERE can be no compromise with public opinion. Whatever the courts of law may say, the great court of an aroused sentiment of the people decrees that the rural billboard must go. The simmering resentment of the motoring public,—which is most of us,—against the scenery-marring, blaring and offensive billboard has reached the boiling point. When and where this resentment has been given organized voice it has boiled over. So, we have with us now The Billboard Problem, and throughout the country the movement toward its solution is general.

Outdoor advertising may be roughly grouped under the headings of urban billboards, rural billboards and "wildcat" advertising. The urban signboards are in or near our cities and, although hardly to be described as aesthetic, are not outraging the scenery. The rural billboards are those found in the open country along our great motor highways, obtruding themselves where they can be best calculated to smash the motorist full in the face with their message. The term "wildcat" is used to describe that group of advertising which is affixed to trees and posts, is erected usually without legal right and over which there is no control, present or in promise, save policing our highways.



"WE GOTTA MOVE THIS BILLBOARD SO'S TO HIDE THIS PURTY LAKE, BILL, —IT'S ATTRACTING ALL THE INT'REST ALONG HERE"

A Cartoon by Harry Alexander

The business of outdoor advertising is organized. It has as its spokesman the Outdoor Advertising Association. According to this organization ninety-five per cent of all outdoor advertising is in the urban sections. The remaining five per cent is rural, and of this, the organized industry says, only five per cent is under their control. The rest are hotel signs, hot dog lures, tea house eulogies and a wide variety of "wildcat" signs of varied character and dubious virtue.

WHAT A GORGEOUS SITE FOR SOME STRATEGICALLY PLACED BILLBOARDS

This is, of course, a synthetic picture and there is no danger of such desecration in our National Park. Scenic spots, little less wonderful, however, have suffered the billboard blight

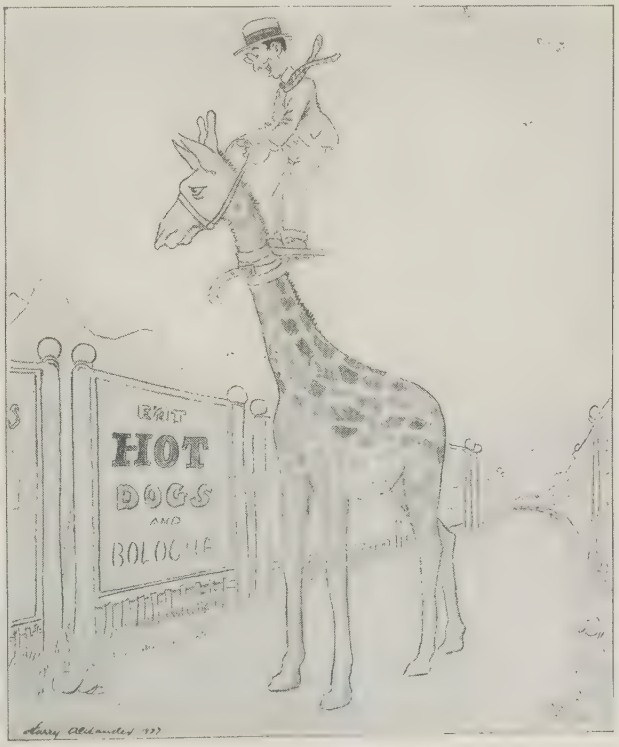
The Outdoor Advertising Association is ostensibly a trade association; in reality it is a defense committee. It is designed to father the appearance of an attempt to mend its ways, and one of its ways is to offer to confer with the opponents of rural advertising and to remove signs from scenic points. It refuses to relinquish this one-quarter of one per cent of the whole business of outdoor advertising over which it has control. It wishes to hold it and cooperate to remove the signs from scenic routes. This sounds magnanimous until one realizes that the organized industry regards as a scenic route one that is not used for truck traffic. Under this definition the trick is to find a scenic route. We repeat, therefore, there is no compromise!

How, then, is the battle drawn? Arrayed against the offending rural billboards are many organizations cooperating through the National Committee for the Restriction of Outdoor Advertising. The General Federation of Women's Clubs is one; the American Nature Association is another. The list is long, but it includes every organization, in spirit and fact, that has the real interest of outdoor America at heart. Added to this is the large body of unorganized and inarticulate public opinion with which no compromise is possible.

However much public resentment may be aroused and voice found through organization, the solution lies through its translation into law and ordinance. Much has been accomplished in various localities, but,—as has been the case before in history,—Massachusetts is the immediate battleground. In 1918 the people of that state declared, by popular vote in support of an amendment to their constitution, that the state should have the right to legislate to control billboards on private land. A state law was enacted in 1920 and in 1924 the Department of Public Works promulgated regulations and local communities were permitted to establish by-laws if not inconsistent with state regulation.

Another shot was fired in historic Concord, which tried to enforce its local by-law. The General Outdoor Advertising Company turned to injunction and threw the case into the courts. There it is today, and after many delays, the expensive legal talent of the industry has completed its presentation of the case. As this is written the Massachusetts Billboard Law Defense Committee is defending the law before the State Supreme Court. It needs the help of everybody interested in outdoor America because the fight it is waging concerns the future of billboard regulation, on a generally effective basis, in the United States.

If the decision of the court is adverse to the billboard industry, it is assumed that appeal will be taken to the Supreme Court of the United States. It must be a fight



A. D. 1937. THE OPTIMISTIC NATURE LOVER BORROWS A GIRAFFE FROM THE ZOO AND TAKES A SUNDAY STROLL

A Cartoon by Harry Alexander

RECOGNIZING THE AESTHETIC
Gas stations are necessary and here is one designed with due civic regard

to the finish and, again, no compromise is possible.

In the interim there are alternatives which aid but do not entirely solve the problem. It has been established that under the police power billboards which obscure the view at intersections of highways, or distract the motorist's eye at such places, may be legally removed. Taxation of billboards has also been found effective and has been legally sustained by The United States Supreme Court in a decision containing the declaration that "if the city desired to discourage billboards by a high tax, we know of nothing in the law to hinder." High taxes, therefore, are an expedient and a tax based upon the square footage of the billboard erected is found to be the most effective. It is particularly serviceable in checking the so-called "wildcat" group.

In the last analysis, however, the invocation of the police power and the use of the tax thus far are principally of urban effect. They are highly valuable and a protection of the public but they do not solve the rural problem. That solution must lie in the established constitutionality of state-wide measures for the regulation, prohibition and taxation of the rural billboard to the ultimate end of its elimination.

Such are the phases of The Billboard Problem from the legal and practical points of view. Increasingly have the courts recognized the assertion of the people that the rural landscape is no place for advertising. Also have they appreciated that the people have paid for the fine highways that stretch throughout our country and, therefore, have some rights to consideration when they appeal against abuse of the immediate environs of these highways. The rural billboard is nothing more than a parasitic growth on the pocketbooks of the American people.

Many producers of nationally-advertised products have bowed willingly to this public sentiment. More than one hundred and fifty (and the list is available on request) have withdrawn either all of their billboard advertising or that on rural boards. These advertisers deserve the appreciation and support of the American people. Score one for an aroused public opinion.

Several states have taken steps to regulate or remove billboards but for the most part this affects signs along public highways and not on private property. Further legislation in these states and really effective legislation in other states must wait on the decision in Massachusetts.

THIS IS A RELOCATED SIGN
Faced with a protest, the billboard people moved this sign from a scenic spot to this site

Municipal regulation has been more general and successful through the police power and taxation. California, now struggling with the problem of the advertisers' idea of beautification in the form of plaster statuary, has accomplished much in various localities. In Modesto, California, the mayor, Sol P. Elias, has fought a fine battle and has worked out an excellent and legal program for communities. Planning boards and zoning commissions have been valuable in keeping the municipal problems within bounds.

Arthur Newton Pack, president of the American

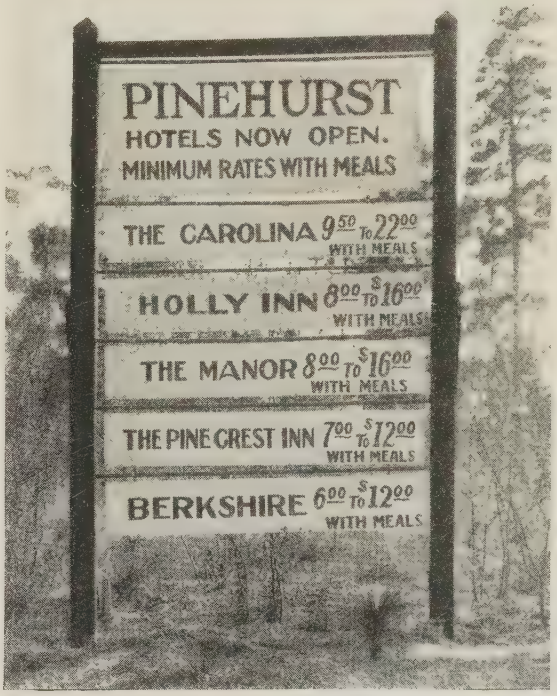
A DANGEROUS CORNER
Not only a traffic menace but a veritable eyesore

HELPING OUT THE HILLSIDE
Such additions as this sign are always calculated to improve the scenery in the country

Nature Association, urges that on state highways a page be taken from Maryland's book. In that state trees are being planted along the right of way, and anyone who tries to read a billboard on private property back from the road through a file of trees will find it quite a trick. Advertising in such a place will soon be discouraged.

Local Chambers of Commerce and similar organizations in several instances have accomplished regulation. An outstanding one followed the opening of a new section of the Roosevelt Coast Highway in Oregon. No sooner had this road begun to serve the motoring public than the signboards appeared. George W. Soranson of the Port Orford Chamber of Commerce set to work. He visited chambers along the road and stirred them up, and with a combined effort pledges were obtained from property owners not to lease a square foot for billboards. These wide-awake Oregon communities did not want the sort of introduction to visitors from which most of our cities suffer.

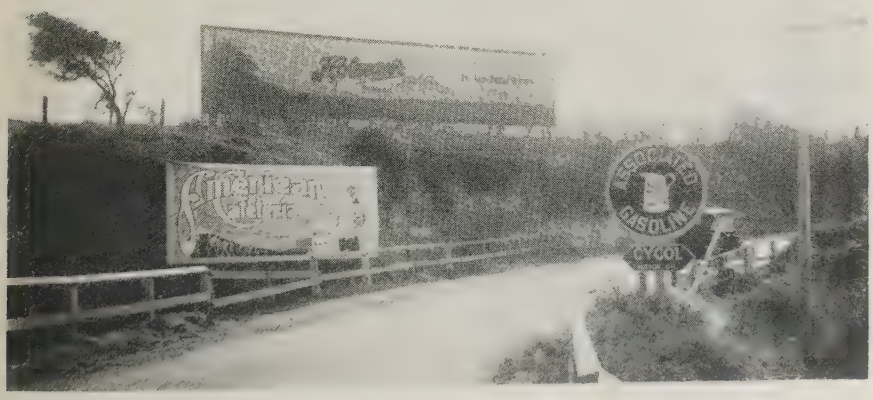
It is impossible here to recite the numbers of organizations recording themselves emphatically against the rural billboard. The American Association of State Highway Officials is only one of many official and intimately-concerned groups which have taken such a stand. We must, however, quote from the annual report of the Chief of the United States Bureau of Public Roads, which declares concerning billboards:


PINEHURST
HOTELS NOW OPEN.
MINIMUM RATES WITH MEALS
THE CAROLINA $9.50 TO $22.00 WITH MEALS
HOLLY INN $8.00 TO $16.00 WITH MEALS
THE MANOR $8.00 TO $16.00 WITH MEALS
THE PINE CREST INN $7.00 TO $12.00 WITH MEALS
BERKSHIRE $6.00 TO $12.00 WITH MEALS

EVIDENCE OF INTEREST
Pinehurst hotels adopted this neat way of telling their story along a Carolina highway nearby

"Designedly placed where they will receive the utmost attention, they frequently obscure or mar attractive roadside views and so detract from the pleasurable use of the highways. Accustomed as we are to their unwanted presence in ordinary surroundings, to come upon these blatant commercial appeals high on the face of a majestic cliff, marring a mountainside, or completely obscuring a particularly beautiful vista awakens a sense of their utter incongruity. In practically all cases these roadside advertisements merely repeat in the same form appeals made quite properly through other agencies. Their disfigurement of the landscape is a national disgrace."

Irrespective of the merits or demerits of prohibition, the organized outdoor advertising industry can take a page from contemporary history. One thing fully as effective as any other element which brought about the Eighteenth Amendment was the arrogance of the brewers and distillers themselves. The hand wrote upon the wall but they would not read. They were too powerful to be touched or forced to mend their ways. They refused to aid the cause of temperance,—and there is temperance possible in outdoor advertising. The open and often law-defying saloon flaunted itself on many corners where public sentiment did not want it. Then the roof fell in. There is no compromise with public opinion. Nor will there be.



UTILIZING THE CURVES
Effective billboard adornment of a highway near Monterey, Cal.

HERE IS THE NATURALIST

"Daddy, can we see you let the bird go?" The second generation of home-disturbers follows the first. Just let a bird come anywhere near this home and all else is forgotten

WHO SAID BIRDS?

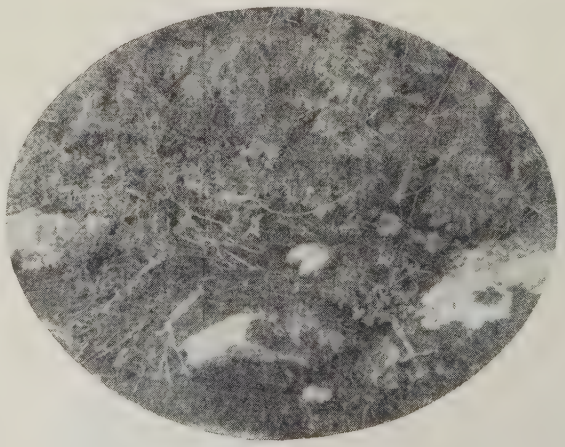
Peculiar Disease Threatens A Happy Home

by A Naturalist's Wife

(Name Withheld for Diplomatic Reasons)

THERE are naturalists of many kinds wandering at large over the face of the earth, but there is one kind in particular—the "bird" variety. I know it best. I am the wife of one of it. My husband loves birds better than his wife, his children, his home,—even life itself, I do believe. It must be terrible to have such an affliction. From what I can gather, judging from the visitors that bless us with their presence, and talk "birds" into the wee sma' hours, while I sit quietly by and drink in their words of wisdom, it is an affliction that is spreading rapidly. It is incurable, like golf and fishing. I've heard of "golf widows", and even "poker widows", but I never heard of a "bird widow" until I became one myself.

Now, mind you, I like birds, but I'm sure I'd never spend any of my valuable time—or money—on them, nor lose any of my beauty sleep by getting up early to study them. Of course, I did get up at five a.m. one morning not so long ago, to visit a loon's nest, but that was just to please my husband. We didn't want anyone to know where the nest was, so we sneaked away early. It was a wonderful morning, fresh and clear, and the sun just coming up as we ventured forth—the kind of a morning that makes you feel "glad" all over, like Pollyanna. I could almost sympathize with these naturalists for wanting to be out on such a morning. And it was a lovely sight to see that bird's nest, too. I only wish that I had a pair of field glasses of my own, so that I could have had more of a chance to watch it, but glasses cost money, and there is enough money spent on this hobby in this house already.



THE LOON'S NEST, AS SEEN AT FIVE-THIRTY

"Who's loony now?" asks the naturalist's wife on a cold morning. Still she suffers with good humor and enthusiasm

The life of a naturalist's wife is a hard one, requiring patience, a well concealed sense of humor, and tolerance. Patience—when your dinner guests are kept waiting while the naturalist is far afield after some "ringtailed hunkadunkus"; the sense of humor when it strikes you as being funny, instead of making you put bichloride of mercury in the soup; and tolerance when he insists on putting the "hunkadunkus" specimen in your newly scoured refrigerator (spilling the salad dressing on the pudding in doing so—Heavens!), and you let him get away with it.

I'm glad I'm sensible, and don't ride a hobby to death. It takes such a lot of time. Why, only today I had to leave my dishwashing and spend about an half an hour watching a bird that was in our garden; I had never seen one like it before, but of course I don't know much about birds, yet. I was fortunate in having the field glasses, as my husband was away at the time. When he isn't here, I hang them by the window just in case anything interesting should come into the garden. I've tried keeping them around my neck while I worked, but they got in my way. Once they got into the wash tub while I was washing, and that is not good for field glasses. I found that out. My husband told me so when he learned of it—most emphatically.

Such silly things as these

AND HERE THE WIFE

The bird widow, cooking breakfast while hubby pursues the "hunk-adunkus" from limb to limb. How she hates birds! Especially when without the family's pair of field glasses

naturalists do! A short time ago a wounded bird was brought to us. Poor little thing! Its wing was injured and it was a sad looking object. My husband put it in a cage to give the wing a chance to heal. Such nonsense. A wild bird needs more room than a cage. I covered all the furniture in one of the bedrooms with sheets, put papers on the floor, and put the bird in there where it could convalesce in peace, without fear of the family cat. Not our cat, of course—I would not have a cat on the place. Cats kill birds. But someone else's cat.

Well, I fed our invalid every day and it was a joy to see it gradually regain the use of its wing. I was almost sorry when it was well enough to be released; it was like a member of the family. We banded it before it left us, and I often wonder if we will ever hear of it again. You should have seen that room after our feathered guest left us. It was a mess, and took a day's work to clean it up again.

This bird-banding is another phase of the malady. I know that it is of great scientific value to learn when and where the birds go, but I do wish it could all be found out without upsetting my happy home. We have a banding trap, and I often operate it when my husband is busy. Handling the wild birds makes them become very real to you, and you do get to love them. They are such tiny little bundles of feathered humanity, and I always feel like a wicked giant when I feel their frightened little hearts beating against my fingers. My young son has watched this banding with much interest, and his latest achievement is a trap of his own design, built of a soap box, a croquet stake, and a long rope. The box is heavy enough to stun a bird, if any bird were crazy enough to go near the trap, but the rope is so short that the operator has to stand out in full view, so I think the birds are safe. The thought strikes me—wouldn't it be terrible if my son should become a naturalist, too! Heaven protect us!

Cameras—that's another symptom. You must have a camera, and a good one, too, so that you can photograph all these birds, and frequently you must risk life and limb in doing it. I know all about it, for sometimes I am allowed to go along on these photographic expeditions—just to help set up the tripod, and carry the extra plates, and do all those menial jobs that fall to the lot of the naturalist's wife. It certainly is a joke all the paraphernalia they need. And the cameras are so expensive, too. I bought one myself, recently, so that I could get some really good pictures of all the birds that come to our feeding shelf each day, so I know a little about what they cost. Today I took my camera, and only had to put a soap box on a chair, and climb from it on to the top of the back fence, to get a picture of a young bird that had just left its nest. I weigh more than I used to—worry over my husband's hobby doesn't seem to reduce my weight any—but the fence was strong, and nothing happened to me. And I "got" the bird, too.

AN INTRUDER AT THE BIRD CAFETERIA

Dobbin joins the naturalists. At the left, the sins of the father are being handed down. Sonny Boy waits for customers at his improvised bird-banding station. Patience is a characteristic of naturalists, but it is the only solace of naturalist's wives. Their plaint forever will be—"I didn't raise my boy to be an ornithologist"

The feeding shelf is another thing that takes my time. I notice that while *he* built it, *I* am the one that keeps it supplied with food. It is no joke in the winter time to wade out in snow up to your neck to put suet in the bags for the woodpeckers, seed for the chickadees, and nuts for the nuthatches. I'm beginning to starve the family so that I can keep that bird cafeteria provided with food. We mustn't let our visitors starve, you know.

Really, I wish I knew what to do about my husband's hobby. It does take so much of his time. I wonder if he will get over it. I'm also wondering if I hadn't better go out and buy a pair of field glasses for myself; I really do need them if I want to learn anything about these birds, and my ornithological husband can go on and use his own old glasses to his heart's content. I'll get a good pair when I get them, too! Yes sir, I will!

The Ant-Killer

A Creature As Strange As It Is Homely

by C. T. Reed

Among the myriad forms of animal life which inhabit the earth's surface are to be found many that tax the credulity of the ordinary person. One that makes the sceptical rub their eyes is a creature only about three inches long which bears a superficial resemblance to the spiders and also to both the scorpion and the vinegerone. Frequently it is mistaken for one of these, but its correct pseudonym is ant-killer, a name the implications of which are fully borne out by its almost-human behavior toward these little insects. Its reason, however, for killing the ants, and nearly all the other small animals, chiefly arthropodans, which it attacks, is not pure love of destruction; for after killing or crippling the insects, thus insuring its peace of mind and safety of limbs, it thoroughly grinds the bodies in its powerful and needle-like chelae, which are like crawfish pincers and a very large pair of which project forward in front of the small head. Then through a toothless mouth, scarcely bigger than a small pinhead, it sucks the delicious juices from the bodies of the victims.

The scientific name of this creature is a question for professional labellers to dispute; but it is either *Galeodes araneoides* or *Eremobates magna*. Many prefer the latter name. It belongs to the class Arachnida and in the order Solpugida. This class also includes the spiders, scorpions, mites and whip-scorpions; so judging from the class of its relatives it could hardly be expected to have a good reputation. In fact it is sometimes—in west Texas—called "sheep killer", which of course it is not, for it only comes to the putrid carcasses of dead sheep to get the numerous ants, flies, and other "vermin" which swarm there. It is called by some "earth baby", by others a young whip-scorpion and is often used by the unintimidated for fish bait in place of the equally ferocious looking hellgramite larvae.

The ant-killer is dreaded—rather, mortally feared—by many, including the Mexicans, as an enemy more venomous than the rattlesnake. As a matter of fact, it has no venom and is harmless, except for the rather painful wound that it might inflict with its sharp, strong, formic acid-covered pincers.

These large spider-like animals are widely distributed throughout the arid tropical and semi-tropical regions of the world. Their nocturnal habits are perhaps an explanation of our limited acquaintance with them, for only during a few weeks in the spring season are they frequently discovered, even at night. The world of Nature has two classes and each animal belongs to both. The everyday life of each consists mainly in the repetition of two acts—the gaining of food for himself and his young, and the keeping of himself from likewise becoming food. Thus this ant-killer, the scourge of antdom, is but a part of the endless cycle,—no better, and no worse, despite his ugliness.

The Saga of a Donkey

The History of One Barney, A Brilliant Fellow

by Mrs. John Kendrick Bangs

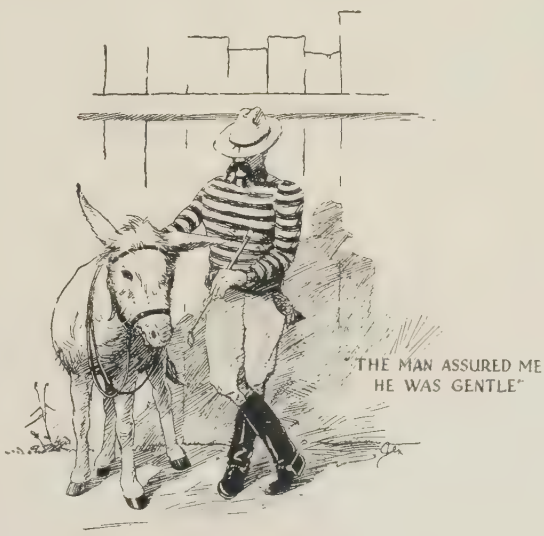
Illustrations by Jex

Those many readers who have enjoyed The Houseboat on the Styx *and other works of the late John Kendrick Bangs, will doubly welcome Mrs. Bangs to the pages of* NATURE MAGAZINE. *You will understand why she loved Barney*

"EVERYTHING comes to him who waits." This wise adage many of us wrote and re-wrote in our copy books when we were young and impressionable, and in one lovely period in my mature age, it came true.

As a child, I loved animals (I still do) and for some unknown reason, I loved a donkey intensely. I hankered for a donkey even when I had no place but a fire-escape to keep him, but I was full grown and supposedly sedate, and should have put away all childish things before I owned the dearest, most intelligent and naughty donkey in the world, and this is just how it happened.

Mr. Bangs and I lived in summer on a rocky bit of coastland in Maine. We had three strapping sons, a few chickens and a brace of ducks, none of whom would or could work, and I, having an urge for gardening, had to delve and dig alone among the rocky fields, making two blades of grass grow where Nature had not seen fit to place even one before.



"THE MAN ASSURED ME HE WAS GENTLE"

Of course, the donkey idea was in my head all the time, and I thought of the rocks he could trundle away in a little cart, the easy removal of the constantly accumulating trash of a household, all of which, including stone, I had to pay a man to wheelbarrow to a bit of low ground I was trying to fill. A donkey seemed good to me—no shoeing, no grooming; in fact, he would be just like Topsy, just grow.

Being the wife of a literary man and with three sons headed for college, my dollars just wouldn't cover the cost of a donkey, so I gave up the idea of ever owning one. However, I talked donkey,—I talked to all my neighbors of its, or his or her many possibilities as a garden assistant, and as an ornament.

There were two delightful ladies that summer, living near us, who also worked in their garden, and better still, had a small niece and nephew. My donkey bug implanted itself in their minds, and I was commissioned to see if I could buy a donkey in New York, where I expected to spend some time the following spring. Of course, as all New Yorkers know, one can buy anything from an elephant to a trained flea in New York, so I felt confident that one small donkey was purchasable.

In the early spring, I hied myself up to Columbus Circle—this of course, was long before the Circle became the setting for Christopher, and at that time there were many riding schools and stables dotted here and there.

My star was high in the Heavens the day I started forth, because the first place I went to, the man said he had just what I was looking for, and bless me, he did.

Out in a little yard behind the stable, my donkey stood. Oh, joy! It seemed too good to be true. The donkey's name was Barney.

Of course, I was at the age when I tweaked out a gray hair now and then, and of course, I knew the donkey wasn't for me, but in spite of that, I registered right then and there, what the novelists call a "grand passion." Dear, funny little Barney, a darling silver-gray donkey, with the black cross woven on his back, and two of the most gorgeously floppy ears you can possibly imagine.

Being a real donkey lover, I had come prepared to win his affection, and when I held under his soft velvety nose a bunch of luscious carrots, he was mine.

The man assured me he was gentle and A-1, though I did notice that he kept Barney head-on, as it were, sort of backed up to the fence. However, I was reassured when I looked at his little hoofs,—they seemed too small to do much damage, so I bought him for sixty-five dollars, and had him shipped to my lucky friends.

June saw my family settled at "Gray Rocks" in

Maine, and I rushed over to see the neighbors and enjoy their rapture in the little beast I had purchased for them.

Alas, alas! Apparently, I had bought and shipped a compact bundle of T.N.T. That meek little donkey had nipped the children, kicked the hired man (who was some kicker himself) and had almost dried up the cow by chasing her away from her favorite shade tree.

Seldom have I been more embarrassed and apologetic than I was that day, when my neighbors explained why they were not thrilled to death with their sixty-five dollar "pig in a poke." I returned home puzzled and sad, but in spite of the tales of woe, my heart melted with love for the little beast whenever I would see him out in the far pasture alone, his ears hanging down over his little gentle lying eyes, and in some unexplainable way we became friends.

September came and the twenty-ninth being my birthday, I invited my neighbors to come and celebrate. I was arranging some lovely late flowers in the living room while waiting for our guests to arrive, when Mr.

"—THE TWO FORGIVING LADIES, LEADING BARNEY."

Bangs called to me to come and look out of the window.

Down the drive they came—the two forgiving ladies, leading Barney. Around his neck was a wide blue satin ribbon, and bobbing under his chin, a sentimental birthday card.

Do dreams come true? They do. That naughty little donkey that had just about broken up a perfectly good tempered and gentle family was my birthday present! There was no subtlety in the gift, because Miss Sally and Miss Mary knew, that in spite of his inner devil, I thought him a lamb and loved him.

From that hour until his little day was done, Barney gave me such devotion and love as only a dumb beast can give. He was mirth-provoking always, and as temperamental as a tenor, but God made him a donkey and not a saint.

The morning after his arrival, I took Barney out of the tool house where we had housed him temporarily, and led him around the garden to show him how lovely was to be his lot in life hereafter. Turning to tie a vine that had blown loose, I inadvertently dropped the leading strap. Like a flash, he wheeled, and let fly both hind legs. They seemed to be worked by a clever spring, well aimed, but a wee bit short of me. Poor me, had they landed, because later I saw those little hoofs snap a fence rail quite easily.

To say I was surprised is putting it mildly. I was surprised and shocked. I was a little mad. I, too, circled around and reached for the leading strap, and my little pet added insult to injury by nipping me, and it hurt.

True the day was the Sabbath, true I had always said punishment should be postponed until the heat of anger had cooled, but, somehow as I looked at those saucy gray ears, one up and one down, and those sleepy eyes, wide awake and full of the devil, I decided now or never, and I broke off a good branch from a handy poplar tree, and I lambasted my darling good and thoroughly.

This was my method in case any one reading this Saga wishes to make a friend of a donkey. Slap, slap, with the whip, then go to the head and hold leader at sufficient distance to avoid the nipper, and then talk! Yes sir, I talked to my new pet, and what is more, he understood. Slap, slap, "You little ungrateful beast, what do you think you are doing, kicking me (slap) biting me (slap) now, if you ever, ever do either of those rotten tricks again to me, I'll send you back to the hired man who kicked back, and you know it."

Barney didn't like it. He made funny noises like a baby, but he understood absolutely, because he never again kicked or bit *me,* and if he raised his little hind quarters or nipped at anyone else, I would say with a smile, "Well donkeys will be donkeys." I had heard that happy refrain so often about my boys, I loved getting it off about my Barney.

Days passed, happy days full of work, just as I had planned. I sent to town for a car, which the manufacturer made to be pushed by a human, but to which I had shafts attached, and the body made to tip up when unhooked, just like a full grown dump cart. I had the harness man cut down a harness for Barney's svelt figure, and I made red worsted tassels to hang beside those lovely woolly ears.

When we left Maine that fall, we wintered Barney with a farmer, who called him a jackass, and, I fear, treated him as such. Mr. Bangs and I went to Madeira that winter and there I bought the most fascinating straw panniers, a bit of fancy strapping for his brow, and a whip, though I never whipped him in anger after that Sunday morning, when I feared to spare the rod and spoil the donkey.

Early spring saw the Bangs family back at "Gray Rocks" and a Mrs. Bangs bursting with garden fever. Barney plowed; Barney trotted up and down our little world, his tiny unshod feet doing no harm to my two blades of grass, and everybody loved him and laughed at him.

Each morning, at about 8:30, he would stick his head out of the window of his stall and hee-haw for me to come and let him out. This window faced the chicken and duck yard, and as I would appear carrying a delicious assortment of carefully selected garbage, he would make the most ridiculous sounds.

If I passed right on into the chicken yard without

loving him a bit, he would drop large and very wet tears,—'tis true, the tears would run down his woolly face, accompanied by a loud hee-haw that made the chickens nervous.

Children came and rode on Barney's back, the devil inside of his little body being subdued by kindness. We gave garden parties and Barney with his panniers filled with flowers wandered freely among the guests. He highly enjoyed company, liked having his picture taken and would follow me around and stand, with his head on my shoulder, apparently listening to the conversation.

I always planted extra flowers and vegetables in my garden for the joy of passing some on to friends, and one bright morning I filled my baskets, and piled them in the little blue dumpcart and climbed in myself, sitting tailor fashion. We drove up the road some distance and turned into the driveway of one of my neighbors. I delivered my garden truck, and after a short chat started home. As we turned into the main road I heard a motor horn just around the bend, and I slapped the reins briskly on Barney's back and said, "Get up there."

Now, as I have said, "donkeys will be donkeys." How on earth if they aren't donkish could we ever have evolved the word donkey, to express human exasperation? So my darling then and there played his part, became all donkey and stopped stock still in the middle of the road and balked.

Knowing that autos were few on that road and that autoists thought the road belonged to them, I instantly realized that this was no moment for Barney to express himself. I was well armed (remember this was the day of pompadour hats perched high and held by long deadly hat pins). With a quick flourish I drew out my hat pin and jabbed it, not too gently, in the rump of my little gray steed.

It worked instantly—Barney drew himself together and with one bounce landed on the further side of the road. There he stopped, and turned his head clear around until he faced me. Then he swore! Certainly he swore, good and loud and long. The people in the car who had seen the spectacle of a perfectly nice-looking woman jab something into a little gray donkey, stopped their car and backed up. However, Barney held the floor as to language, no one could get a word in edgewise, so the party rode away apparently much amused at my profane jackass.

My Barney was old, I hate to think how old, because the thought of so many years when I did not own him, saddened me, and worse than all was the vision evoked by the many scars he bore. Kicks and cuffs had been his portion because of his lowly state in the animal kingdom.

Often as he would sprawl on the terrace, basking in the sun, I would stop my work and sprawl too, and if I touched one of the scars, tracing it with a gentle finger, he would raise his head and look at me with a puzzled expression. The awful story lay right behind his gentle little eyes, and if I looked deep enough, I would see the naughty little devil that had been bred there by those kicks and cuffs, that naughty little devil which had been exorcised by love, carrots, and now and then a few oats.

I think it was Stevenson who said, "No one has ever seen a dead donkey." Be that as it may, they do die, but they are hard to kill and live very often to their hundredth year.

A donkey seldom is sick; he seems able to digest almost anything until his teeth give out. It was quite a shock when I discovered Barney's teeth were almost all gone, and that the daily apple was hard to masticate. My good husband used to joke about my making apple hash for my pet, and my boys declared, with some truth, that I chewed his apples for him.

Early one summer, when the apples were green, Barney was trotting up and down on our terrace, the apple trees were heavy with fruit, and the branches hung low, full of tempting green fruit. I never dreamed of Barney's indulging in them because of his difficulty in eating, but the naughty streak in him led him to nip some of the greenest and swallow them whole.

I had been very busy getting some work ready for two men who were to do a little blasting in my garden,

"KNOWING... THAT AUTOISTS THOUGHT THE ROAD BELONGED TO THEM..."

and my back was turned to Barney while I put burlap over some climbing roses. So I failed to see the naughty deed, but later as he lay on his side, all puffed up like a hogshead, I knew. One of the men noticed him rolling back and forth and said, "Ye jackass looks to me like he had the colic, Mrs. Bangs."

I dropped my rake and rushed to my little gray beast. He tried to lift his head and come to a sitting position, which ordinarily was so funny, but which now seemed tragic, he wobbled so, all the time sighing and grunting. He was so distended I was horribly frightened.

"What can I do?" I called to the workmen. "Wall, a drink of liquor might save him," one of the men answered.

I flew to the house and Mr. Bangs poured a generous glass full of straight Scotch whiskey. We dashed back together and found the men preparing to give the jackass his dose. One had an old piece of burlap spread across his manly chest, and one held ready a stick to wedge the donkey's mouth open. It looked like an operation, nothing less.

However, I knew my donkey, and went straight to the deed without any frills. I took his old gray head in

my lap and held his mouth open while John Bangs poured in his best liquor. Barney neither struggled or coughed, no sir, he smacked his lips and sighed gently, and put down his head to rest.

I returned to gardening, the men returned to drilling, and John sat on a stone bench and looked at Barney with a funny smile on his face. Soon my little pet began to stir, he sat up, bracing himself by his two fore legs. Up went his head, up went first one ear, then the other, and my husband declared he laughed; anyway, he grinned.

We all stopped work and watched him.

"By crickets," one of the men said, "he's drunk."

My husband said, "I'm afraid he is, I certainly hope we haven't started him down the Primrose Path."

With a mighty effort, Barney got up on all four legs, decidedly wobbly legs. Then viewing the landscape, with a rakish tilt of his head, he began to gallop. Now Barney wasn't given to galloping, he was a wee bit stiff in the joints and also he was lazy, but off he started around our two acre garden lot, around and around, stopping each time as he came to the mirth-rocked audience, and he-hawing in a most humanly debauched manner.

BARNEY... STEPPED DAINTILY OVER THE EDGE OF THE WORLD

After the spirit had subsided, he flopped down exhausted but happy, and one of the workmen said, "By gory, he'll more than likely have another spell o' colic again to-morrow at this same hour, if he is as wise as you say he is." But he never did, thank goodness, because our cellar consisted of only two bottles of Scotch.

Barney when he was presented to me had a very nice leather halter, which I slipped on every night to fasten him in his stall, but which every morning, when I tried to remove it, gave me such a tussle. It caught here and there. First one ear would double back and then the other, and it seemed a very tight fit indeed, almost impossible to get off. But, oh, that naughty donkey!

In August that second summer when the air was soft and balmy, the garden full of perfume and the moon so glorious that it spread a silver sheen over every rock and bush, my donkey had a brain storm. The hour was midnight, the window beside my bed gave on the roadway which ran from my garden. Suddenly I heard a pit-er-patter of little hoofs; down the road they came, straight for my window, and then the night was filled with the loveliest donkey serenade the world has ever heard.

I arose and leaned from my window and looked down upon that little gray friend of mine, the only gentleman who had ever serenaded me. I couldn't catch his attention by whispering, so I had to rather spoil the scene by shouting, "Barney dear, 'tis lovely," I said, "but you know we have neighbors who may want to sleep, and for pity's sake, how did you get your old gray head out of that halter?"

We never did know how he managed it, and moonlight nights always affected him the same way, and unless we closed and locked the stable door, down he would trot from his stable and sing under my window.

It was deliciously funny, and I was teased unmercifully about reincarnation, but unfortunately on his return to his stall, he invariably ate up either the carrots or bean vines in the garden, which was not quite so gallant after all.

Let us pretend now, at the end of this true story of a donkey, that Barney did not die, but just stepped daintily over the edge of the world and was seen no more in an earthly garden, and if my donkey does have another incarnation, may it be my good fortune to meet him some time, somewhere, so that I may tell him how much of fun and joy even his memory gives me to-day, when I am older and sadder, because happy days are so short.

As undoubtedly most of our readers are aware, the May issue will be the New England Number, taking its place beside the California Number of last year. Textually and pictorially it will be a worthy companion of the first geographical number so generally approved by our members. The leaders in their respective fields are contributing articles to this issue and those who do not already know New England will be spurred to remedy this lack. It might not be amiss at this time to announce that the special issue of the early winter of this year will be the Florida Number and that that for the spring of 1930 will be devoted to the Upper Lake States. It is necessary, editorially, to work far ahead with these issues, and others in more distant contemplation are Southwestern Number, Carolina Number, Northwestern Number, Mississippi River Number and others not definitely named.

W. ATLEE BURPEE CO.

THE ANSWER TO RENEWED POPULARITY IS GIVEN BY THESE DAHLIA-FLOWERED ZINNIAS

SUCH NEW VARIETIES BROUGHT THE OLD-FASHIONED GARDENS UP TO THE PRESENT MOMENT

The Zinnia Comes Back

Old-Fashioned Flower Regains Youth with New Blooms

by Albert A. Hansen and E. R. Honeywell

Purdue University Agricultural Experiment Station

GROWING wild along highways and byways of old Mexico may be found masses of an unpretentious little plant somewhat resembling in flower form our common black-eyed susan, although the center is yellow and the petals are reddish.

About the year 1858 some seeds of this native Mexican found their way to the West Indies and thence to the nursery of M. Grazau at Bragnères, France. But either these were not the usual seeds of this simple species or else the plants responded wonderfully well to rich nursery soil and changed climate, because instead of producing the ordinary daisy-like type of blossoms, double flowers of brilliant hue rewarded M. Grazau's faith in trying out this stranger. M. Grazau called the attention of the great French flower breeder, Vilmorin, to this newest of Nature's offerings. Vilmorin, much impressed, decided to do a little breeding of the promising newcomer on his own account and two years later he publicly introduced the first double forms of that popular garden flower, zinnia.

There is something strange about the fact that the little wild Mexican species, known to scientists as *Zinnia elegans,* was named by a Frenchman in honor of a German. Prof. Johann Gottfried Zinn of Göttingen, one of the earliest of professional botanists who devoted his life to a subject that had barely reached the status of a profession, was the fortunate godfather.

Vilmorin's introduction met with almost instant popularity, since in the hands of breeders it gave rise to one of the richest assortment of floral colors known to any garden plant. Almost every hue with the exception of true blue was produced until the popularity of the newcomer amounted to a craze that lasted for a decade. Later, however, zinnias began to be referred to as "old-fashioned" and were little in demand.

This loss in prestige was partly due to the somewhat stiff habit of growth that leans toward the formal, and in some measure to the colors which, great as is their variety and wondrous as are the hues, are not as soft and pleasing as, for example, the China aster. Severe critics were also inclined to find fault with the texture of the blossoms, the unreliability of the colors and the lack of pleasant odor.

The popularity of this deserving species reached a

rather low ebb until the comparatively recent introduction of new and greatly improved varieties. When there was created the remarkable dahlia-flowered kinds with blossoms, much resembling dahlias in color, size and appearance, and the interesting curled and crested varieties that overcome the usual formality, the star of zinnia once more began to ascend with rich promise of finer things to come. And as there seems to be no end to the colors and forms that may be evolved from this plastic plant, it may again attain the popularity of yore.

The greatest charm of zinnia lies in the rich and varied hues that the species offers. It may well take first rank as the most colorful of garden plants. Artists can well envy the wondrous purity of scarlet, red, crimson, magenta and pink, but the species also yields brilliant light and golden yellow, light orange, orange scarlet and salmon in addition to the so-called aesthetic shades of lilac, flesh, light orange and reddish maroon. The white was for a long time exceedingly difficult to clear, but true white varieties are now in the offing and soon they will bedeck the gardens.

One of the difficulties in the past has been the instability of the colors since one was never certain that varieties would come true to seed. Sowing zinnias always involved expectation and surprise. Although capable of producing the clearest of colors, zinnias were untrustworthy and much "muddying" of the blossoms occurred. This objection has largely been overcome by modern improved varieties although even today reversion both in color and form toward the primitive single-type blossoms of the wild Mexican progenitor is a phenomenon familiar to all who grow zinnias in gardens. It is a simple matter, however, to rogue out the degenerates.

CURLED AND CRESTED FAVORITES

These varieties, best in formal gardens, appear to have just come from a beauty parlor

W. ATLEE BURPEE CO.

(Above) "POOR LITTLE BUTTERCUP"

Like the Gilbert-Sullivan character this Buttercup, a giant creamy yellow creation, is popular with all

The means by which double forms of flowers of the zinnia type are produced is a mystery to the uninitiated. In the wild single flower the central disk is covered with scores of tiny tubular florets, while the florets on the outer edge take the strap or ray form. By means of extra nutrition supplied by rich soil, by special means of cultivation and by other tricks of the expert plant breeder the tubular florets have been induced to take on the ray form. This process was gradual, however, since the first double zinnias offered to the public by Vilmorin often exhibited evidence of the disc in the center. In one modern variety all the tubular florets have merely enlarged, giving a distinctive effect.

Zinnias are annuals that produce a wealth of bloom and a profusion of color from midsummer until frost. They are at their best during August, and often show a remarkable ability to remain unspoiled by the vagaries of weather, frequently remaining fresh and gay when other garden flowers show serious effects of adverse climate. Because death in the late fall is gradual and without loss of

WHERE THE GIANT-FLOWERED ZINNIAS GROW LUSTILY

ACRES LIKE THESE SUPPLY SEEDS FOR THE WORLD

petals, the name youth-and-age is sometimes heard for this garden favorite. Zinnias are popular in groups, beds, mixed borders, garden lines, summer hedges and as cut flowers, but they find greatest usefulness, perhaps, in banks of color in such splendid company as marigolds and gorgeous China asters.

Varieties of zinnias are numerous and tempting. Although the most popular kinds are solid in color, variegated forms exist. Reds, yellows and bronzes predominate, although almost any color but blue is offered. In addition to the new and popular dahlia-flowered varieties, such splendid kinds as the cactus-flowered, dwarfs, curled and crested, and giant mammoth tempt any garden lover. The range extends from the dwarfs, which are from three inches to a foot in height, to tall growing kinds that reach a height of thirty inches,—and there is plenty of choice in between.

The dwarf zinnias divide naturally into two groups, the pompons or Lilliputians which grow to a height of nine or ten inches and produce small blossoms, and the Tom Thumbs, which form comparatively large heads on dwarf plants sometimes a bare three inches in height. Practically all the dwarfs can be cut into quaint, old-fashioned bouquets. Among the popular dwarf varieties being offered are Red Riding Hood, much in demand as a border plant,—a wee bit of a thing barely a foot high with scarlet, button-like compact blossoms an inch in diameter; Mexicana, a nine-inch variety with double blossoms that range from yellow to brown and is recommended for dwarf beds or borders; the Pompon, shading from scarlet to almost pure white; Dwarf Snowball, an attractive pure white type with dahlia-like blooms, and Dwarf Fireball, a colorful fiery scarlet variety that arouses instant admiration.

When formality in the garden demands a touch of grace, the curled and crested varieties with their twisted, tousled petals afford a color range from deep crimson to salmon, rose pink, yellow and white. They attain a height of about a foot and a half and are valued both for all-around garden purposes and to supply novel cut flowers.

EXCELLENT FOR BORDERS

Here are giant mammoths on dress parade

J. HORACE MACFARLAND CO.

A CACTUS FLOWER
Quite different. It gets away from too much regularity and formality

PICOTEE ZINNIA
A distinguished character, if you please, with dark-tipped petals

ALL PHOTOGRAPHS BY W. ATLEE BURPEE CO.

(Above) HOW NEW VARIETIES ARE CREATED
The cheesecloth cages shut out foreign pollen. Every color has now been conquered by zinnia except blue

The giant strain of zinnias, originally developed a generation ago by a breeder named Lorenz, has been much improved until it yields stems forty inches in height and blooms up to six inches in diameter, almost rivaling dahlias in size. Under the general name giant mammoth, such splendid varieties are being offered as the Giant Purple, a rich light purple; Giant Rose, with exquisite rose-colored blooms; Giant Crimson, with huge, rounded blossoms, and the Giant Scarlet, a strong-growing type with magnificent, striking scarlet flowers. Picotee zinnias, whose petals, of almost all shades, are dark tipped, like Picotee carnations, have found popularity.

Among the new giant dahlia zinnias may be mentioned the Luther Burbank; Buttercup, a creamy-yellow variety with splendid large flowers; Illumination, with beautiful rose-colored blooms; Exquisite, a duotone variety that produces rich rose flowers with deeper colored centers; Dream, a splendid kind noted for the manner in which the lavender blossoms become tinted with purple as the season advances, and white Polar Bear.

The interesting cactus-flowered type is novel and distinct since it has been evolved by the elongation of the tiny tubular florets. It does not possess the formal, regular rows of petals to which some people object.

Although our best garden plants usually require considerable care, zinnias are of easy culture. They are not fastidious regarding soil requirements, thriving in loam and sand alike, although a deep, strong, rich soil with plenty of elbow room to expand gives best results. The common seeding method is to sow the seeds thinly outdoors as soon as the ground can be worked in the spring, usually about the time maple leaves begin to expand. As soon as the young plants appear, thin out the stand so as to allow from six inches to a foot in each direction for the individual plants to develop properly.

Another method is to sow the seeds indoors either in a box filled with sandy soil or in flats, or in a hotbed during early April, and transplant the seedlings before they are placed outdoors. Although it involves extra thought and work, better results are obtained this way.

Perhaps the worst of all zinnia foes are cutworms, brown or gray caterpillars that eat the roots and stems and seriously weaken the plants. Keep the beds free from all weeds, and sprinkle poison bran bait thinly around the bases of the plants. The poison bait is most effective when broadcasted during the evening when the cutthroats—pardon us, cutworms—leave their homes for the evening repast.

Poison bran bait may be prepared by mixing two quarts of bran with one teaspoonful of Paris green so thoroughly that each particle of bran shows a tinge of green. In a separate receptacle mix one-half a cupful of any cheap grade of syrup or molasses with three cupfuls of water, then mix well with the greened bran. If properly prepared the bait should be moistened sufficiently to broadcast thinly but should not be too wet.

Occasionally rather alarming-looking large black spots may appear on the leaves. If this trouble, called leaf-spot, threatens much harm, spraying with Bordeaux or dusting with copper lime dust will solve the problem. Sulphur dust is the approved treatment for zinnia mildew, a whitish, powdery disease of the foliage.

Zinnias are staging a great comeback in garden popularity due to their new varieties. And the "old-fashioned garden" becomes, with them, modern once more.

THE PUBLIC AND THE PARKS

An Aroused Press Pleads for Excluding Private Lands

THE question of private lands in the national parks is now settled, as far as the Seventieth Congress is concerned, but the reverberations of an aroused public sentiment demanding the parks be preserved for the people has not yet died down. As a result of the struggle of the past few months, to obtain appropriations particularly to save Yosemite's 11,000 acres, and to enact legislation paving the way for buying private lands in all the parks, both the National Park Service and Congress have been given a clear mandate from the people to solve the private land problem by acquisition as soon as possible.

The American Nature Association, which emphasized the necessity for quick action last July, is proud that the cause it has been championing is the people's cause, and that the press, informed of the situation, has so wholeheartedly supported it during the past few months.

From the day the Association first called the attention of the press to proposed lumbering in Yosemite, through the period when it appeared that the $1,000,000 offer of private donors would not be met by Congress, the press played a large part in forcing the issue. Later, when Representative L. C. Cramton of Michigan proposed to appropriate funds to meet the emergency, and to guarantee more funds, which, when equalled by public subscription, would pave the way to rid all the parks of private lands, newspapers were unanimous in demands for action. When the Senate and the House were deadlocked over a clause permitting condemnation, removed by amendment by Senator Walsh, the press continued the battle which the American Nature Association was making.

"That eternal vigilance is necessary if the magnificent forests in Yosemite National Park are to be saved from the desolation and destruction of the lumberman's axe is clear on reading the letter from Mr. Arthur Newton Pack," the New York *Times* pointed out as the beginning of the contest, and later said, in arguing for the right of the public to condemn public lands in the parks:

"The question narrows itself down to whether we will have a privileged class who may own land in our national parks, or whether such lands shall be bought by the government and placed under the same regulations as the rest of the parks, with special privileges for none. The privileged class is reluctant to be placed on the same footing as the rest of the country. It is not content with the assurances of the Park Service that no attempts will be made during the lifetime of the present owners to dispossess them or to restrict their liberties."

"The Yosemite purchase is one that must be made without delay," urged the New York *Herald-Tribune*. "[The Walsh amendment, removing condemnation power] is a hamstringing amendment likely to impede the purchase on farm terms of timberland that should be safeguarded by national possession. Private owners, knowing that no power to condemn is in reserve, are practically invited to put an excessive price on their acres." And again: "The interest of the United States in keeping the parks unblemished is paramount; it should not depend solely on precarious bargaining with the holders of patents. As an ultimate policy the government should look forward to Federal ownership of all the land within the national park boundaries."

"Beauty is too rare and precious a thing to be sacrificed wantonly. It is a thing future budget makers and lawmakers cannot restore to us, once lost," the New York *Telegram* proclaimed, while the Newark *News* asserted:

" 'The finest section of sugar pine remaining on the continent will fall before loggers if logging begins,' according to Arthur Newton Pack, president of the American Nature Association. It is not, therefore, a question of saving some acres of trees, but of saving the integrity of one of the nation's beauty spots and natural wonders."

The Washington *Post* urged Congress to leave in the condemnation clause:

"Congress has an opportunity of preserving part of one of the most beautiful of the parks for a sum that seems insignificant in view of the increasing importance of these national playgrounds. The situation should be brought forcefully to the attention of Congress. Recent reports indicate that prices of private forest land in the vicinity of the parks are rising rapidly. Unless the Senate can be convinced of the inconsistency of its position, it will mean that the private forests and all other private property desired for park purposes will have to be sacrificed, or else the Government will have to meet the demands of owners, exorbitant as they may be."

The California papers were firm in their demands for Congressional action. "As is seen by the pronouncement of President Pack of the American Nature Association, if that portion of the Yosemite Park that is held in private ownership is to be saved, action must be immediate," warned the Sacramento *Union,* while the Los Angeles *Express* asserted: "The trees in Yosemite Park grow in California, but they belong to the nation. A movement to save them from the lumberman's axe is national. The American people must not suffer the loss of these trees." "Chances are best right now for settling the private land question, and these chances will soon be gone," pleaded the San Francisco *Bulletin*: "Action must not be delayed."

Early in the contest to determine whether those demanding that the parks, created by and for the people, be rid of private lands, should win, or the Senate maintain its stand, the Louisville (Ky.) *Times* realized the

(Continued on page 264)

The Wild Rose Gains

THE wild rose took advantage of the 30,000 votes cast last month in the American Nature Association National Flower Poll to increase its vantage over the goldenrod, columbine and phlox. A total of 61,883 votes for 46 candidates had been cast to time of going to press. The columbine repassed the goldenrod to gain second place.

TOTALS			
Wild Rose	20,675	Violet	4,374
Columbine	10,011	Daisy	2,947
Goldenrod	8,430	Dogwood	2,693
Phlox	5,587	Beauty Rose	1,226

Address National Flower Editor for bulletins and ballots. Ballot appears on page 273.

The state superintendents of schools in Delaware, Georgia, Maine, North Dakota, New Jersey, Pennsylvania and Wisconsin have already arranged for their school children to take advantage of their right of suffrage in this poll. Other states will have joined in by the time this article is read.

Atlanta, Georgia, gains the honor of the first city to deliver a 100% school vote. More than 10,000 balloted in the Georgian capital, after Miss Hattie Rainwater, Supervisor of Elementary Science, had armed them with the facts of the campaign, and sent them to the polls like adults in a national election. She issued to each school a mimeographed sheet giving full directions for preliminary study, a list of candidates, a copy of the national flower "platform" stating the ideal requirements for a national flower, and a ballot. She writes:

"Nature study classes were used for looking up material and English classes for discussions. Much enthusiastic interest was introduced into the homes by the children, who got a real 'kick' out of the experience, and added much to their knowledge and to their permanent consciousness of flowers."

Realizing that an unintelligent vote is no vote at all, and that valuable lessons in citizenship, Nature study and conservation may be derived from the national flower poll, the Fresno, California, City Schools will follow their State Bird campaign methods to get out the choice of the city. Material is being put on reference at the city library. Preliminary study involves discussion of the requirements of a national flower, and the different candidates are rated in comparison. This careful selection plan should be followed in every school.

In Berks-Reading County, Pennsylvania, the Camp Fire Girls, led by Lillian M. DeTurk, have stimulated women's clubs, civic organizations and schools to the polls. While the Girl Scouts, Camp Fire Girls and Boy Scouts in other localities have been crusaders for ballots, Miss DeTurk's group seems to lead the field.

Texas entered the bluebonnet, state flower, as its choice, and Mary Dagget Lake, authoress and avowed

THE WILD ROSE

Elizabeth G. Britton
Honorary Curator of Mosses, New York Botanical Garden

THE National Flower must be one blooming in all parts of the United States and its territories, be available at all periods of the year for floral decoration, be known to all, and be symbolic, in appearance, of the more idealistic and perfect characteristics of the nation. The one flower that appears to meet all these stringent requirements is the wild rose.

It may be found from Alaska to the Philippines, Hawaii, and Porto Rico. It may be grown commercially to supply the demand at all seasons of the year, out-of-doors or under glass. Every child, man and woman loves it and knows its name. Historically, the cultivated roses trace their ancestry back to the birthplaces of civilization,—Babylon, Persia and Nineveh. The national flower should be as proud of its past as the people it represents.

Almost every one of the United States has a native wild rose, and the appearance and smell of this flower during the months of bloom leave nothing to be desired. The rose has long represented, symbolically, purity, beauty, idealism and bravery. It has been the flower emblem of famous royal houses, and has long been associated with nobleness and uprightness. It is especially well adapted for decorative design.

It is almost impossible to imagine a national flower without fragrance, yet many of the candidates suggested have no odor at all. The rose, however, wherever it is found, has a sweetness of smell that has never been duplicated by artificial means. To have it in the house, even if unseen, is to know its beauty. A National Flower should be one used on festive occasions in the home—weddings, holiday celebrations and such. Who would wish phlox, or dandelion, daisy or goldenrod in the home at these times, or who would wear them on hat, dress or coat?

The rose is undoubtedly the best choice the American voters can make for national flower.

GOLDENROD

By A. A. Hansen
Purdue Experiment Station

FOUR essentials of the national floral emblem,—that the plant be native, common from coast to coast, easy of cultivation and beautiful in flower, foliage and form,—are possessed by goldenrod to a marked degree.

Goldenrods are members of the Solidago group, comprising nearly one hundred species, all but three or four of which are native Americans. These scores of species thrive under conditions varying from desert to bog, from mountain to plain, from New England to California. Although seldom cultivated in America on account of Nature's lavishness, the rich beauty of our common species combined with their easy culture has made these children of the New World prime favorites in Old World gardens where many unusually attractive varieties have been developed.

Goldenrods are at their best not in the garden, but when blending with the rich blues and purple of native asters set off by a gorgeous background of oaks and maples that have donned autumn robes of brilliant hues. Such a landscape is typically American and can be found nowhere else on the face of the earth.

Those who oppose the adoption of the goldenrod as a national floral emblem fear the foreign sneers insinuating that it would be a symbol of American greed for gold. Better may it be a reminder of the golden American charity, unprecedented in the history of the world, that alleviated untold human misery and saved multiplied thousands of lives during the World War and the reconstruction period that followed, and at other times of stress.

No plant in our entire flora is more characteristically American than the goldenrod and few can match its brilliant beauty and lavish display. Goldenrod is a hundred per cent American, a fitting symbol of a great nation. This land could hardly do better.

THE PHLOX

by Edgar T. Wherry, President, Washington, D. C., Chapter, Wild Flower Preservation Society

FIRST and foremost, phloxes are all native to the United States (if Alaska is included), and not a single species grows wild in Europe. This is not true of many of the other national flower candidates. Goldenrods, wild roses, and columbines, for example, are native to other parts of the world. Were phlox singled out it would be impossible to take a European species as the emblem of our country, because there are none.

Second, phloxes come in our national colors, red, white and blue. Packets of seed of these colors can be purchased from nearly every seedsman (look in their catalogs under *Phlox drummondi)* and these seed, if sown early spring, will yield flowering plants by the Fourth of July. There are also many sorts of phlox with magenta flowers, a color that seems dear to the heart of the average American, for every old-fashioned garden includes a dozen kinds of plants bearing flowers of this hue. It is also possible to obtain from seedsmen phloxes which have flowers in the form of a perfect five-pointed star.

Third, some kinds of phlox grow wild (or naturalized) in every state of the Union, and are cultivated in most gardens too, so that they are known to every flower lover. Were they chosen as the emblem of the country, all of us could have as many as desired, without any danger of exterminating a rare wild flower. This is not true of the columbine; as a result of excessive gathering, that lovely plant has all but disappeared from the neighborhood of our cities, from roadside banks, and railroad cuts where it was formerly abundant.

Phlox is All-American, has emblematic significance in color and shape, thrives in cultivation, and is already familiar to nearly everyone. It would indeed be difficult to find any wild flower so well suited to be chosen as our national floral emblem.

THE COLUMBINE

by Mrs. Joseph Remington Ellicott "Mother of the Florida Garden Clubs"

NO other flower can hope to rival the columbine as a suitable candidate for national flower honors. It is probably the only flower that meets the necessary qualifications—growth throughout the length and breadth of the United States, symbolism, and suitability for conventional designs for currency, postal emblems and decoration.

How well is columbine adapted to be America's National Flower! The name suggests Columbia, and is derived from *columba,* meaning dove, symbolic of the dove of peace. One view of the flower, many have discovered, presents an appearance as of a group of doves. The botanical name—*Aquilegia*—was given to the flower from the Latin word for eagle, because the flower reversed with the spurs hanging down suggests an eagle's talons. Thus would columbine be a fit companion for the National bird. The full face of the flower presents a five-pointed star, while the leaf terminates in thirteen lobes, the number of the stripes that are found on the American flag. And columbine has brilliant red, white and blue American colors. A view of the single petal of the long-spurred variety presents a definite outline of the horn of plenty, while each separate petal of the short-spurred variety is a perfect miniature production of the liberty cap.

The columbine is the state flower of Colorado, and proud that commonwealth is of its choice. Luther Burbank favored it; there are none that do not feel affection for it. It is American from perianth to root.

It grows in nearly every state in the Union from the Atlantic to the Pacific, from Canada to the Gulf, and is in bloom on Decoration Day, Flag Day and the Fourth of July. It is easy of cultivation. It has never been known as a weed. By its grace, beauty, dignity and hardiness, it can well epitomize the things that are noble and good.

Cast your ballot for the columbine!

proponent of this candidate, is chairman of the campaign to elect the national flower from the Lone Star State.

The far-flung regions of the United States territories have made themselves heard in the campaign. More votes have come from Alaska, while the Colegio Puertorriqueño, in Porto Rico, selected the wild rose, columbine and violet as most symbolic of the nation to which they belong.

Now, more than ever, is the leadership of those who know the flowers necessary to make certain a wise, unhurried choice. Probably a million votes will be cast. With a little cooperation every citizen will have the opportunity, at least, to ballot. To direct these suffrages into proper channels, the aid of Garden Clubs, Nature lovers and members of the American Nature Association is necessary.

The campaign presents now the opportunity for driving home wild flower conservation lessons that will not be forgotten. The disappearance of the California poppy from the Golden Gate, the fate of the columbine in Colorado, the battle that the dogwood of Virginia has had,—these tragic happenings will never reoccur, if the people realize, through this campaign, that flowers are a valuable part of the nation's natural heritage.

The citizenry in Lamb's tale burnt down their houses to get roast pig. Americans, scarcely more civilized, pull up by the roots, break branches, and destroy rare plants in order to carry homeward flowers that wither before they get there. With the acquisition of "flower consciousness", which Miss Rainwater points out was increased in the Atlanta schools by the poll, and which the poll will increase among adults as well, Outdoor Good Manners to the flowers will become inbred.

That is why, when you get out a vote for a national flower, you are impressing upon the voter the beauty of flowers and the necessity of saving them.

That is why we ask you to "Get Out the Vote", among schools, clubs, civic organizations and your friends.

The poll will not close for several months yet, not before the end of the school year. Official blanks are not necessary—any card or letter, sent to us, will suffice.

While the votes for culti-

(Continued on page 263)

WILD FLOWER PRESERVATION PRIZE CONTEST

THE Wild Flower Preservation Society is offering 27 cash prizes totaling $150 and 36 prizes of wild flower plates for the best lists of local and state flowers that need protection and of those that may be picked more or less freely. Contestants are divided into four classes: children of the eighth grade or lower; children of high and preparatory schools, or equivalent age; college students or equivalent age, and adults. The maximum prizes in each class are, respectively, $5, $10, $15, and $25.

Contestants should send a two-cent stamp to the WILD FLOWER PRESERVATION SOCIETY, *3740 Oliver Street, N. W., Washington, D. C., for rules of the contest.*

TO USE, HOLD OVER HEAD WITH
TOP TOWARD NORTH

For use April 1, 9 P. M.; April 15, 8 P. M.; April 30, 7 P. M.

Shooting Stars and Fireballs

Some Astronomical Observations Anyone May Make

by Isabel M. Lewis

THERE is one branch of astronomy, known as meteoric astronomy, which has to do with the study of those objects which are encountered by the earth in its journey around the sun. These are meteors or shooting stars, the small dust-like particles, weighing usually only a few grains, that are continually being swept up by the earth's atmosphere and consumed by friction after glowing brilliantly for a few seconds. The other heavenly fireworks are the larger fireballs, or meteorites, that weigh a number of pounds or even tons and that strike the surface of the earth.

Meteors and shooting stars differ from fireballs, aerolites and siderites, classed generally under the name of meteorites, in that they are small enough to be entirely burnt up by friction with the atmosphere, only their ashes falling to the surface of the earth. They appear as streaks of light darting rapidly and noiselessly across the sky. If members of a swarm or shower they appear in greater or less numbers at the same time each year where the orbit in which they are traveling intersects that of the earth. Their radiant, or the point in the heavens from which they appear to radiate, is the vanishing point of the swarm. Actually the various members of the swarm travel in nearly parallel orbits. The radiant, or vanishing point, of the swarm is merely an effect of perspective. The swarm is named for a constellation or conspicuous star in a constellation near which their radiant is located. For example, there are The Perseids which appear in August, the Leonids and Andromedes of November and The Lyrids which may be seen from April 17 to 23, with greatest display on April 21, and the Eta Aquarids which are interesting because

TOO MUCH MOOSE

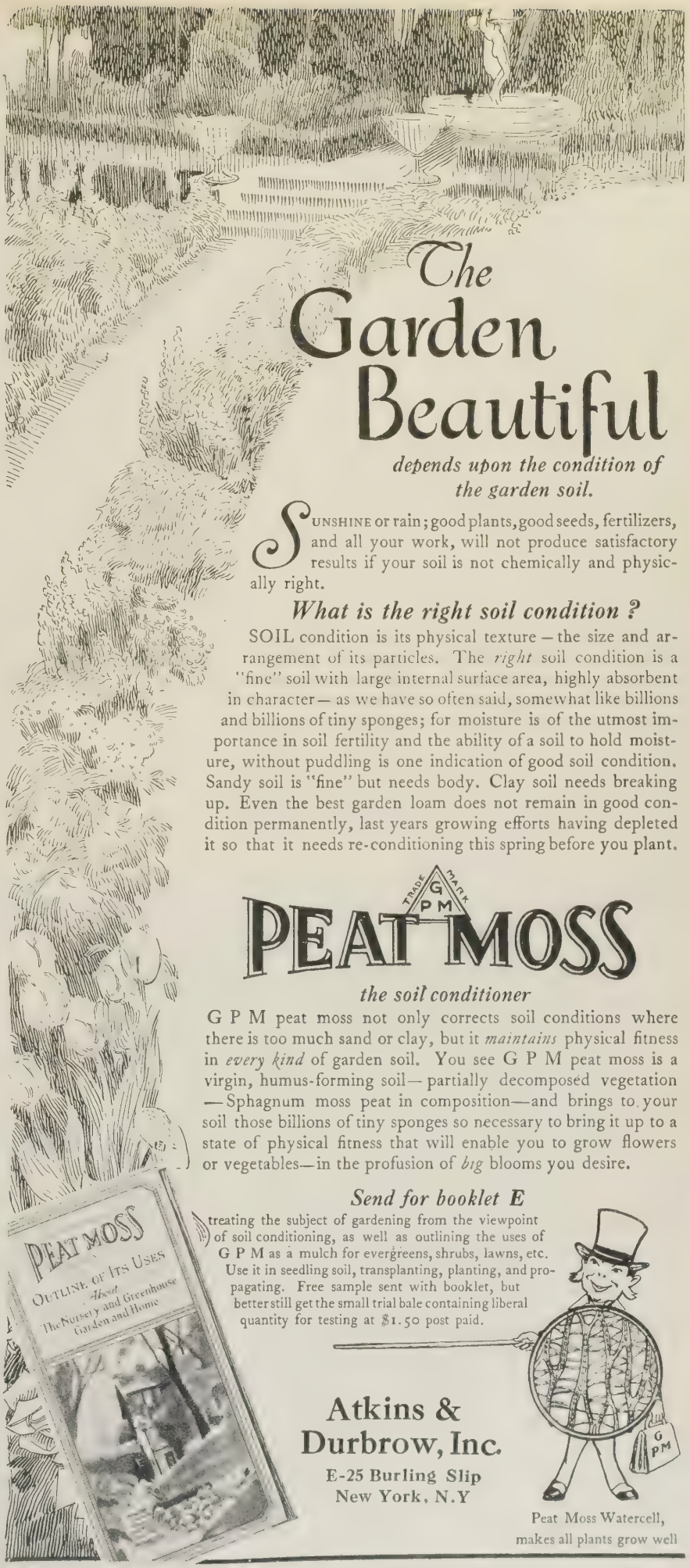
(Continued from page 226)

return. He might damage one camera and tripod, but we would save our skins. The moose looked at the camera and tripod, glared and again grunted. Bill's camera continued to buzz. I dropped the spool and the loading bag with a click. The moose turned his attention to me, grunted again, and swayed those enormous antlers. There were only a half a dozen inch-thick stems of Christmas trees between me and him. Perhaps they would interfere with the best use of his horns, but those deadly feet would still get in their work.

As Finley's next one-hundred-foot roll of film gave out, he reached for the decoy camera. In so doing he accidentally struck the tripod which clattered ominously; and, to our immense relief, the bull for the first time showed fear, moving off a few steps. Bill was working at such close range, that all he could get was the immense antlered head. Slowly the big fellow began to give ground, and Bill began moving his tripod closer in pursuit. "My gosh! He's trying to commit suicide," I managed to whisper; but by this time Bill had figured that the old moose would have charged us earlier, had he been in mind to do so. The moose would not trot away, but edged off at a walk, Bill following cautiously with a four-inch lens set for twenty-five feet. Clearly the big fellow was angry, but he was also afraid of something he didn't understand. Hunter and hunted had now reached the edge of the larger timber, and Bill grew bolder with the knowledge that a substantial tree trunk could be placed between himself and the moose at any instant. Once the bull did turn on him, but apparently recollecting that one of his antlers was still a little sore, he drew off into the timber. We were safe at last; and we had five hundred feet of moose pictures, the only fault of which lay in the fact that they were taken at such close range that no one would believe they had not been made in a zoo. It was now seven-forty and the way was clear. The ground of our blind was strewn with camera handles, lenses, filters, finder eye-pieces, and partially dismantled cameras, but nothing was broken except our record for wild moose pictures. Three people had had a tremendous thrill and a bad scare, and rode back to camp for a late supper and an inventory of films.

Nature Fellowships

Two Charles Lathrop Pack Fellowships, one in Nature Education and the other in Forestry, have been founded within Cornell University on behalf of the New York State College of Agriculture with the object of determining methods and practices affecting the education of the public in the use of its natural resources. These fellowships are supported by the Charles Lathrop Pack Forestry Trust, and are available to persons with the equivalent of the Master's degree. Applications for the year 1929-30 should be in the hands of Professor E. L. Palmer, Fernow Hall, Ithaca, N. Y. before March 15. Mr. Pack, for whom these fellowships are named, is president of the American Tree Association.



The Garden Beautiful

depends upon the condition of the garden soil.

SUNSHINE or rain; good plants, good seeds, fertilizers, and all your work, will not produce satisfactory results if your soil is not chemically and physically right.

What is the right soil condition ?

SOIL condition is its physical texture — the size and arrangement of its particles. The *right* soil condition is a "fine" soil with large internal surface area, highly absorbent in character — as we have so often said, somewhat like billions and billions of tiny sponges; for moisture is of the utmost importance in soil fertility and the ability of a soil to hold moisture, without puddling is one indication of good soil condition. Sandy soil is "fine" but needs body. Clay soil needs breaking up. Even the best garden loam does not remain in good condition permanently, last years growing efforts having depleted it so that it needs re-conditioning this spring before you plant.

TRADE MARK G P M PEAT MOSS

the soil conditioner

G P M peat moss not only corrects soil conditions where there is too much sand or clay, but it *maintains* physical fitness in *every kind* of garden soil. You see G P M peat moss is a virgin, humus-forming soil — partially decomposed vegetation — Sphagnum moss peat in composition — and brings to your soil those billions of tiny sponges so necessary to bring it up to a state of physical fitness that will enable you to grow flowers or vegetables — in the profusion of *big* blooms you desire.

Send for booklet E

treating the subject of gardening from the viewpoint of soil conditioning, as well as outlining the uses of G P M as a mulch for evergreens, shrubs, lawns, etc. Use it in seedling soil, transplanting, planting, and propagating. Free sample sent with booklet, but better still get the small trial bale containing liberal quantity for testing at $1.50 post paid.

Atkins & Durbrow, Inc.
E-25 Burling Slip
New York, N.Y

Peat Moss Watercell, makes all plants grow well

they follow nearly the same orbit as the famous Halley's comet. They may be seen from April 29 to May 9, with greatest display from May 4 to May 6. For observers in the United States the radiant of the Eta Aquarids rises in the southeast and they may be seen for only about three hours before dawn.

The Lyrids may be seen to the best advantage around midnight, radiating from the direction of the constellation of Lyra in the northeast. They vary greatly in number from year to year and in recent years they appear to be increasing in activity.

It is well known that most of the prominent swarms of shooting stars or meteors are associated with periodic comets and follow in their orbits. Swarms of meteors that have been identified and listed are now numbered by the hundreds and the actual numbers of meteors is enormous. Millions of these dust-like particles enter the earth's atmosphere daily. One need only scan the heavens for an hour or so on a clear dark night to become acquainted with some of them by actual observation.

Meteorites differ greatly from meteors or shooting stars in many respects, possibly even in their origin. Meteor swarms are known, in many definite instances at least, to be the debris of disintegrating comets, following the same orbits. Meteorites or fireballs rarely appear in connection with swarms of meteors, though they occasionally appear in groups and many individual meteoric stones or irons often have been found in a single fall. In some instances their appearance is accompanied by loud detonations or a series of sharp reports, like that of artillery, or again the stone may burst into fragments with a sharp explosion. The brilliancy of a fireball or meteorite is frequently very great, often surpassing that of Venus and at times even the full moon. Meteorites are most frequently observed in the spring and in the hours between noon and midnight. Meteors or shooting stars are observed in greatest numbers in the early hours before the sunrise in the autumn. In the morning we are on the forward side of the earth in its orbit and the meteors we then see are the ones that are approaching us. The meteors seen in the evening hours are the ones that overtake us and to do so their velocities must be greater than that of the earth. In general the velocities of the shooting stars and meteors do not greatly exceed that of the earth so the number that overtake us must be fewer than those we meet "head on" in the morning hours.

The fact that more meteorites are seen in the afternoon and evening than in the morning hours shows that their velocities must be, in general, greater than that of the earth, otherwise they would not overtake the earth in such great numbers. There is reason to believe, indeed, that meteorites are different in their origin from shooting stars, that they are not true members of our solar system but are drawn into it from interstellar space by the attraction of the sun. It is possible that meteorites were much larger and more frequent in occurrence in past ages than they are at present. If, as some believe, the craters of the moon were formed by the impact of great meteorites then certainly meteorites must have been fully as great as asteroids in size. Indeed some point out a close resemblance between comets, meteor swarms, fireballs, meteorites and asteroids. If a meteor swarm is dense enough and surrounded with a sufficiently great quantity of gaseous matter it becomes a comet. On the other hand, were meteorites greater in size and were their orbits reduced to ellipses by the action of the planets, particularly Jupiter, the great perturber of small worlds, they would resemble the asteroids. It is possible that there may be a close relationship between these three classes of objects.

The most remarkable encounter between the earth and a meteorite of which there is any record preserved is probably the one that resulted in the formation of Meteor Crater, near Cañon Diablo in northeastern Arizona, a desert region. This crater is about four thousand feet in diameter with walls rising about one hundred and fifty feet above the plain and descending precipitously six hundred feet to the floor. Rocks at the bottom are crushed to a depth of several hundred feet and show signs of great heating. Within a radius of five miles of the crater thousands of iron meteorites have been picked up. It is also an interesting fact that there are other large iron meteorites in some of our museums that were found within a radius of not many hundred miles of the meteorites of the Cañon Diablo fall. There is a possibility that they were all members of one great meteoric group that encountered our earth at least several thousand years ago.

News has come in recent years, through reports from many inhabitants of northeastern Siberia, of a great meteorite or group of meteorites that struck the earth in a vast primeval forest of that country, producing great destruction over a number of square miles. The force of the encounter caused the earth to tremble for many miles in all directions. Scientists have been investigating this great fall which, from all reports, appears to have taken place on July 30, 1908.

It is in this field of meteoric astronomy that there is an opportunity for anyone interested in a study of the heavens to do some interesting work that will be of real value to science. All that is needed is an acquaintance with the principal constellations and brightest stars. The American Meteor Society, which was organized by Dr. C. P. Olivier, a well-known authority in this branch of astronomy,—now Director of the Flower Observatory of the University of Pennsylvania,—is composed very largely of amateur astronomers in all parts of the country who are engaged in this work of observing meteors and, if they are fortunate enough to have the opportunity, the far less frequent phenomena of fireballs. This society is glad to receive accounts of unusual meteoric phenomena as well as observations, made more or less regularly, of shooting stars and meteors, whether members of well-known swarms or of a sporadic nature. The necessary instructions for making these observations are furnished to all members of the society. It is very largely upon the reports of such observers that the astronomer working in this field has to depend for the data for his investigations into the origin and nature of celestial objects of this kind.

The most essential information to be given in reporting observations of meteors or fireballs includes the date and time of the observation, to the nearest minute if possible, the position of the object in the sky with reference to well-known stars or constellations, the direction and extent of its flight with respect to these as

(Continued on page 265)

Helps and Hints

FOR HOME AND GARDEN

If you depend on April showers to bring the flowers of May and the rest of the summer, disappointments await you. This is the month for back-breaking digging, much consulting of garden handbooks, and care and diligence in starting the spring season in the right manner.

* * *

Roses, dahlias, primulas, gladioli, and other flowers should be turned loose out of doors this month when danger of frost is past. The roses must be pruned, not extensively, but just enough to cut back to new growth. If you are planting seeds, use moss to cover them, as it will keep the moisture, or if planting very fine seeds, mix them with dry sand, to spread them around. Christmas cherry and cineraria are put into the ground at this time, also delphinium, gaillardia and gypsophila.

* * *

In planting dahlias, separate the clumps after the eyes or buds have begun to push through the base of the stalk or head,—but make sure that at least one eye goes with each cutting. The cut surfaces should dry several hours before planting, then should be placed in holes twelve to eighteen inches deep, refilled to within six inches of the surface. Do not use fertilizer at this time. Here the tuber is laid flat, eye side up, and covered loosely. Water only moderately, but fairly consistently.

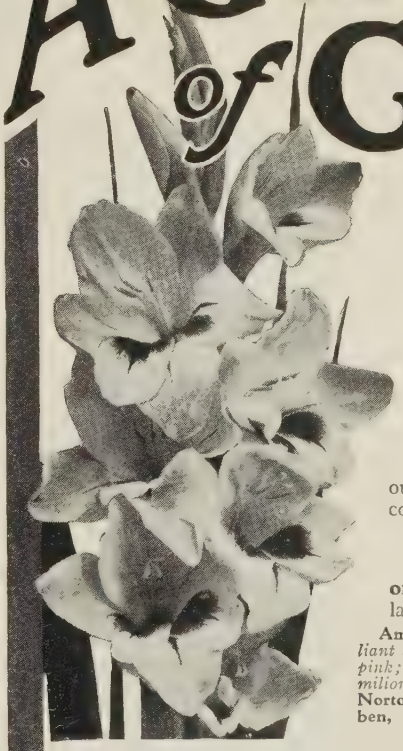
* * *

Roses are like some kinds of people—they look better and act better by themselves. Do not plant too near trees, heavy shrubs or hedges, and make sure that they have good drainage. Perhaps the safest, and undoubtedly the most laborious, method is to excavate your bed to a depth of three feet, place a twelve inch layer of stones in the bottom, cover these with inverted sods, and then refill with well-prepared soil, liberally dosed with rotted cow-manure. You must get cuttings or grafts from reliable houses for your best varieties. As for ways of grafting, see Hints and Helps for last month. Plant grafts deeper than own-rooted plants. To fight off the enemies of the rose, the mildew, black spot, caterpillars and aphids, a commercial preparation of sulphur, arsenate of lead and nicotine is supplied by most reputable seed houses. The rapidly-spreading brown canker can be best warded off by spraying with Bordeaux mixture or ammoniacal copper carbonate and by cutting all affected branches about an inch below the blotch. Rose bugs can be battled with a liquid spray supplied by seed houses, or by picking the bugs off, and dropping them in kerosene.

* * *

If you are growing dahlias from seed, plant in boxes three inches deep, in rows about an inch and a half apart, and cover not more than half an inch deep. Sprouts should appear in a few days or a week. When they are three or four inches high, pot them, and leave them in the pot until

A Garden Full of Gladioli



The Most Popular of All Summer-Flowering Bulbous Plants

For a number of years we have been offering a collection of 50 Gladioli Bulbs and have sold millions of them, receiving numerous testimonials as to their merits. This year we are also offering a choice collection of named varieties for those who wish to plan their garden according to a color scheme. All bulbs produced under expert supervision on our own Farms.

Special Collection No. 1

For **Two Dollars** we will send **50 Bulbs** of our **Grand Prize Mixture,** which covers every conceivable shade in the Gladiolus kingdom.

Special Collection No. 2

For **Five Dollars** we will send **10 Bulbs each of 10 choice named varieties,** separately labeled, (100 Bulbs in all) of the following:

America, *Lavender-pink;* **Crimson Glow,** *Deep brilliant crimson;* **E. J. Shaylor,** *Rose-pink;* **Halley,** *Salmon-pink;* **Herada,** *Pure mauve;* **Mrs. Francis King,** *Vermilion;* **Mrs. Frank Pendleton,** *Deep salmon;* **Mrs. Dr. Norton,** *Cream and pink;* **Peace,** *Splendid white;* **Schwaben,** *Canary-yellow.*

Simple cultural directions in each package.

Order Your Bulbs Now, so as to have them to plant when you begin your garden. Mail your order with Check, Money Order, Cash or Stamps, mentioning this advertisement, and Bulbs will be sent prepaid to your home anywhere in the United States.

Write for our 1929 Spring Seed Annual

Stumpp & Walter Co

30-32 Barclay Street New York City

Farms and Testing Gardens—Farmingdale and Islip, L. I.

Branch Stores in **Newark, N. J., White Plains, N. Y., Baltimore, Md.**

PLANT PACHYSANDRA

where grass won't grow

Pachysandra (pronounced Pakasandra), the amazing ground cover from Japan, thrives where grass won't grow. In sandy soil . . . in deepest shade of shrubs and low-limbed trees . . . under brilliant sun, on steep rain-gutted terraces, Pachysandra spreads abundant, evergreen foliage.

For only a few years has it been used in this country. Already leading landscape artists endorse it heartily.

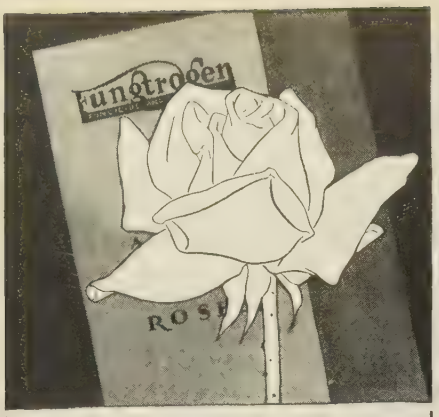
Use it for edging driveways, for all screening and foundation planting. I can supply large or small quantities at economical prices. Send for beautiful illustrated catalog.

Pachysandra is a plant not a seed

HUGH B. BARCLAY

Specialist in Pachysandra and other ground cover plants

1271 Montgomery Avenue Narberth, Pa.



Prize Rose Blooms

Roses respond amazingly to the cleansing, stimulating effects of Fungtrogen Spray. Mildew and Black Spot disappear. Foliage becomes bright and luxuriant. Blooms of rare, new perfection appear.

Fungtrogen is quite unlike any other spray known. It is invisible. Easy and pleasant to use. Simply mix with water and spray. Half pint makes 15 quarts of spray. Leading horticulturists enthusiastically endorse it.

Prepaid: half pint $1; pint $1.50. At your dealer's or send check.

Complete Rose Treatment includes Companion Sprays: APHISTROGEN, kills aphis (plant lice); INSECTROGEN, kills leaf-eating insects.

Write for free bulletin, "Black Spot Control."

ROSE MANUFACTURING COMPANY
3646 Filbert Street Philadelphia, Pa.

Fungtrogen
FUNGICIDE AND STIMULANT
REG. U.S. PAT. OFF.

Star Roses

You can't fail

if you plant Star Roses. We guarantee success—either the roses bloom or we refund your money.

Send today for the "Star Guide to Good Roses." Over 200 roses described, many pictured in color—old favorites, many novelties, and imported prize winners.

Enclose 25c with your request for *free* "Star Guide" and we will send you our 32-page book, "Success with Roses." Fully illustrated. Tells what to do and when and how to do it. *Send today!*

The CONARD-PYLE CO., *Star Rose Growers*
Robert Pyle, *Pres.* Box 28 West Grove, Pa.

Guaranteed to bloom

HUMUS

means better flowers, lawns and vegetables. At the price sold nothing equals it as a

FERTILITY MAKER

5.00 for 5, 100-lb. bags—18.00 per ton f. o. b. Stanhope, N. J.

H. B. PRINDLE
Send for cultural directions
70 East 45th St. New York

Rhododendron Max. and Mountain Laurel, Flowering Shrubs 2 to 4 ft. 25—$5., 100—$10. Hemlock, 2 to 4 ft. 25—$5., 100—$18. Holly, 2 to 4 ft. 25—$7., 100—$25.

Write for prices on carload stock.

JOHN E. NORRIS P. O. Doeville, Tenn.

April is well along before transplanting out of doors. See Mr. Hart's article on dahlias in April Nature Magazine for details and best blooms.

* * *

Plantations of strawberries, raspberries and asparagus can be made if the frost has left the ground. Asparagus needs a rich ground, and plants very satisfactorily in a bed five feet wide, in rows six inches wide and eighteen inches apart. The crowns should be spread out as nearly like a spider as possible. Do not plant too deep. Set strawberries three feet apart, and pinch off most of the runners. The Red Dutch variety is suggested. As for raspberries, loose soils are the best, with partial shade no hindrance, so you can well use them for screening an unaesthetic garage or unattractive corner. Space two or three feet apart in rows six or seven feet apart.

* * *

And if you see birds coming around your fruit crop when it is getting ripe, do not make the mistake of driving them all away. Often they are after the cut-worms and grubs that have been eating your supply. Even if they take a berry or two for dessert, the ultimate pay for their labor is certainly very small.

* * *

No garden is complete without a small water pool, with water lilies in it. As these are very easily grown, try them out. Plant in water from one to two feet, in a basket, if the bottom is gravelly, or in the soil itself, if rich, anchoring with a stone if necessary. At least one cubic foot of soil should be allowed for each plant, the best mixture being three parts of fibrous loam with one part well-rotted cow-manure. Swamp muck should not be used. Set with the crown of the plant even with the surface of the soil, then cover with an inch of sand to keep the water clean. As lilies bloom just a couple of weeks after planting, they will be showing the results of your work while you are still sweating over less rapid developers. Young fish, either minnows or gold fish, will solve the mosquito problem, also wash the lilies to dislodge the aphids that they may fall within range of the piscatorial jaws.

* * *

Now is the time for canary breeding. Place material for nest building where the birds can get at it. Store the eggs in bran until they are enough for a setting. Just before the eggs are hatched, dust with insect powder. Young birds are fond of hard boiled eggs, crushed very fine and mixed with wheat bread. As for their general care, write for bulletin No. 39, "How to Care for Your Canary Pets," issued on request by the American Nature Association.

Water Lilies

Instructions for building, planting and taking care of pools, large and small, in our 1929 free catalog. 36 pages of water lily lore. Illustrated in colors. Describes over 100 varieties of wonderful, hardy lilies. Low California prices.

JOHNSON WATER GARDENS
Box N-4 Hynes, Calif.

GLADIOLUS 1000 bulblets $1; 100 small assorted bulbs $1.50; 50 large assorted bulbs $2; the following bulbs blooming size, assorted, labeled, in lots of 12: Anna Eberius, purple 30c; Bengal Tiger, striped red 50c; Byron L. Smith, lavender 35c; Elora, creamy white 30c; E. B. Williamson, purplish pink 40c; Europa, white 60c; Henry Ford, deep purple 40c; Jack London, orange salmon 35c; Le Marechal Foch, light pink 30c; Los Angeles, pink 60c. All prepaid. Catalog free. Dodropin Glad Gardens, 316 Main St. Lewiston, Idaho

GLADIOLUS, 100, post paid $5.00, 50 for $2.50. Price list free. **W. T. PANKEY, Wheaton, Illinois.**

10 GALLONS STRONG PLANT FOOD AND THIS NEW GARDEN Booklet POSTPAID 25¢

For 25c. you get this new booklet and a trial (1½-oz.) can of Nitrophoska, the popular plant food. The booklet tells how to succeed better with Flowers, Vegetables, Lawns, House Plants, etc. A level teaspoonful of

NITROPHOSKA

to a gallon of water, makes a rich, liquid, odorless plant food. Far ahead of any you have ever used. It is easy to use and costs only 1½c. per gallon.

100 GALLONS WITH BOOKLET—POSTPAID 65¢

This size is more economical—costs only 1/3 of a cent per gallon, since 16 ounces make 100 gallons. You can also use it dry, as a two-finger pinch every 10 days—two weeks, for flowers or vegetables, whether indoors or out, gives them thrift and health and encourages them to blossom and produce freely. Remember, Nitrophoska is pleasant and EASY-TO-USE, perfectly odorless, very soluble and concentrated: "A little goes a long way;" does not wash out but clings to soil particles and so nourishes roots for a long period. Order today. Sold by dealers.

SYNTHETIC NITROGEN PRODUCTS CORPORATION
GARDEN DEPARTMENT
285-H MADISON AVENUE NEW YORK

Miss Gladiolus Los Angeles Broadcasting

I was named for the "City of the Angels," where I was born and where they love me so much. My petals are a beautiful grenadine or orange tinted pink. They call me **The "Cut and Come Again" Glad** because I often send up new spikes after the old are cut. I am the nearest **Everblooming** but no quite as that is not possible. I often give over **100 blooms** from one bulb.

They say I am exquisite and they love me in Hollywood, Beverly Hills and everywhere. I want you to love me, too.

My Daddy says I may come and bloom in your garden this Summer. I want to. May I? Just send my Daddy $1.00 for 20 "me's" four big, six medium and 10 small. Even the little "me's" promise to bloom for you if you treat us nice. Or you can have 15 big "me's." I'll hop on the next train. Meet me at the P. O. I'll be wearing a postage stamp.

I'd like to bring a few of my little brothers and sisters. La Verne (canary flushed pink, throat carmine) and Mary Jane Coole (coral pink pomegranate throat) are each 25 cts.; Crepe (begonia rose with ivory lines, resembles crepe) 50 cts. each. Rose O'California (pure rose color) $1.00 each; beautiful mixed, 50 cts. doz.

My Daddy writes a little book every year called "New Creations in Gladioli, Iris, Amaryllis and other bulbs." Some people say it's clever and interesting. It's free. My Daddy's name is

CECIL E. HOUDYSHEL, Dept. M, San Dimas, Calif.

DAHLIAS

Bargain Offer—5 Glorious Beauties for $1

Msr I de ver Warner Large pink. **Purity** White. **Cigarette** Red and white. **Mrs. Edna Spencer** Orchid. **Le Grand Manitou** Purple and white. Value at catalogue prices, $3.10

Our $5.00 Special 3 Giant Varieties

Marmion Golden yellow. **Nagel's Roem** Chamois pink. **Margaret Woodrow Wilson** Phlox pink. Catalogue value $9.00.

Send for interesting free catalogue.

C. LOUIS ALLING
Dahlia Specialist
251 N. Court Street West Haven, Conn.

Rhododendron Max. and **MOUNTAIN LAUREL** 2-4 ft., 25 $5, 100 $18. Clumps, 2-3 ft., 8-18 branches, 25 $12, 100 $40. Seedlings 6-18 in., 100 $10, 1000 $75. **HEMLOCK TREES,** 2-4 ft. 25 $4.50, 100 $16. **FANCY HOLLY,** 2-4 ft., 25 $7, 100 $25.

W. G. NORRIS P. O. Doeville, Tenn.

THE WILD ROSE GAINS

(Continued from page 257)

vated flowers will be counted, yet as a native bird was selected for the national emblem, so should a native flower be chosen. It may, of course, have cultivated varieties, such as the wild rose and the wild columbine have; but if it does not grow freely in the United States it is not a logical candidate. Here once more is the flower "platform": a flower should have wide distribution, symbolic significance, hardiness, availability a large part of the year, suitable decorative and conventionalization possibilities, and a history connected in some way with the nation.

So enthusiastic has been the public response that the task of getting out the vote is only nominal. Superintendents and principals have cooperated upon request in all parts of the Union. Women's clubs, Nature and Garden Clubs, and even civic and business organizations have taken part as soon as information on the poll reached them. The local newspapers have carried articles on the local campaign, and in many instances, run ballots. One group in each city, —perhaps the Boy Scouts, Girl Scouts or Camp Fire Girls—may well conduct the voting under their auspices. The American Nature Association will still continue to be a clearing house for ballots.

The libraries may put material on reference, and all teachers, if an intelligent vote is forthcoming, may well follow the system evolved by Miss Rainwater and the Fresno, California, schools. Adults, too, will wish to understand why one flower is more suitable than another, before going to the polls.

Mrs. C. C. Marshall, President of the National Life Conservation Society, of New York, is using a voting booth at meetings, surrounding it with flower pictures and conservation posters. In this way every one is reached, and the conservation aspects of the campaign driven home.

For the student, the poll is a lesson in citizenship, in Nature study and human history, and an opportunity to act on a national matter as the free voter of the future. To the adult, it is an occasion to realize the part flowers can play in life, and the necessity for conserving them. The national flower, once selected by a democratic, widespread expression of opinion, may well become an object of pride, epitomizing, as it will do, the best in the nation.

But it has not yet been selected, though the American people are well on their way to a choice. So "On to the Polls!"

To West Indies

The second of the Natural Science Expeditions, being conducted all over the world by Paul Griswold Howes, the curator of Natural History at Bruce Museum, Greenwich, Connecticut, and Dickinson S. Cummings, left for Dominica, British West Indies, in January to complete the ecological work begun there in 1925. Emphasis will be placed on color photographic work, paintings of bird life and study of the physical condition of Mount Diablotin. The next trip of the expedition is scheduled for St. Lucia, also in the British West Indies, in 1931. Mr. Howes is a frequent contributor to Nature Magazine.

Duckham still leads with

Superb Delphiniums

Now Known in Every State from 'Frisco to Maine

THERE is, without question, a prevailing "Delphinium craze" among the American garden loving people, and there are few who can question the fact that in 5 years my Delphinium Hybrids have been largely instrumental in producing this "craze", earning for these noble flowers the tremendous popularity they so richly deserve.

My introductions in past years were the forerunners of the better Delphiniums of the present time.

By the importation each year, of still finer types and new colors, from exclusive English private sources, my field rows are continually revealing amazing products of floral beauty, truly *"Wonders of the wily ways of Plant Wizards."*

Prices of my
DUCKHAM'S MIXED HYBRIDS
remain as before:

Per dozen, $11.00; per 100, $85.00
SELECTED TYPES AND COLORS
not previously distributed
Each $2.50; $5.00; $7.50 and up
Descriptive catalogue mailed free on request

William C. Duckham
Rose and Hardy Plant Specialist
Madison *(Box N)* New Jersey

Rustic Hickory Days are Here!

Time to air out the old cabin and get the boats in the water again, for the best time of all—Vacationtime—is at hand.

Vacationists in all parts of this continent have shown their preference for Rustic Hickory Furniture for the past 27 years. Wherever Nature smiles you will find this rugged, comfortable, harmonious furniture—in summer home, lodge, resort, country club or dude ranch. Every inch of it is hand built. Only the choicest saplings of Northern hickory go into it. There are over 150 styles to choose from, both for indoor or outdoor use—in natural wood finish or in the latest mode of lasting color combinations.

There is no summer furniture to compare with Rustic Hickory Furniture. For your protection, and ours, we have burned the Rustic Hickory brand in every piece. Look for it.

Your copy of our big catalog is waiting for you. Send for it today. Ask for catalog D.

RUSTIC HICKORY FURNITURE CO.
La Porte, Indiana

AT LAST

Hardy Plants That Really Are Hardy

For instance, there's our Edelweiss. It has a lineage going back to the rocky vastness of the Alps. The Edelweiss is a flower as fair as it is rare. Have particularly fine plants for you.

IT'S a fact, and you know it, that many a so-called hardy plant is *hardy provided* the winter isn't too hard on it. When we say hardy, we mean exactly what the word hardy means.

Every one of our plants is field grown. Grown uncoddled, and winter tested in this rigorous lake region climate of ours. You can depend on depending on them.

Do you really know hardies and their uses, as you would like to? Then send for the catalog. It's amply illustrated and readably texted.

Wayside Gardens
MENTOR, OHIO

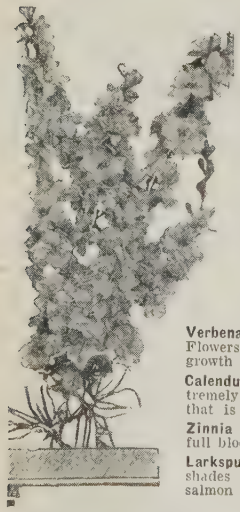
Reg.U.S.Pat.Off. E. H. Schultz, *Pres.* J. J. Grullemans, *Sec'y-Treas.*

Dreer's Garden Book

IF you love Flowers and like to grow your own Vegetables, you'll thoroughly enjoy this 1929 edition. It offers countless suggestions in Seeds, Plants and Bulbs, with illustrations and directions for growing them successfully.

A copy free if you mention Nature Magazine

HENRY A. DREER
1306 Spring Garden St., Philadelphia, Pa.



Special Offer of New and Distinctive Flowers

Fine Assortment in Rare and Odd Forms

Asters, Giants of California: "Rose." Large and distinctive of the Ostrich Feather Type. Branching habit and long stems, admirable as a cut flower.....Packet 25c

African Daisy: "Salmon Beauty." New color in African Daisy large flowering, true salmon shade. A remarkable cut flower and for outside planting.....Packet 25c

Eschscholtzia: "Ramona" New Frilled. Distinct type, very charming. Single, the frills give it appearance of a semi-double. Color a pale, but glittering coppery gold with pink shadings.....Packet 25c

Fringed Petunia: "Pink Triumph." Giant blooms, clear bright, delicately fringed. Best fringed all-pink Petunias. Beautiful in beds and borders; and for window boxes.....Packet 50c

Snapdragons: "Bassi's Seven New Giants." New, surpass anything yet introduced. Flowers of magnificent size much larger than the ordinary Giant Snapdragons. Grow five feet high, on strong robust spikes.....Packet 35c

Verbena Hybrida: "Colossea." Rose shades and Rose Auricula-Eyed. Beautiful new race. Flowers over one inch in diameter borne on large umbels. Plants have a more upright growth than ordinary.....Packet 25c

Calendula: "Radio." A new departure in Calendulas. Petals beautifully quilled; flowers extremely globular in shape; formation of petals give an added sheen and warmth of tone that is very attractive.....Packet 25c

Zinnia Giant: "Miss Willmott." At last giant Zinnias in a soft salmon pink. When in full bloom they become show flowers of an enormous size.....Packet 25c

Larkspur: "La France." A much more vigorous and taller grown variety than other light shades of stock flower varieties offered. Large, well-formed, double flowers of a beautiful salmon pink.....Packet 25c

Write today for our 1929 book "SPRING GARDENING". It's Free!

SPECIAL SEED COLLECTION
One packet each of the above 9 outstanding novelties valued at $2.60 for **$1.50**

Bassi Frères Inc. de Paris Est'd 1905
SEEDSMEN : NURSERYMEN
507 Main Street New Rochelle, N. Y.

GLADIOLUS GIANT
Special Mixed Choice variety of colors. 50 for $1.75, 100 for $3.25 Postpaid.

THE PUBLIC AND THE PARKS

(*Continued from page 255*)

necessity for strenuous support of the National Park provisions:

"Arthur Newton Pack asks the American Nature Association's 128,000 members to bestir themselves in favor of Mr. Cramton's Bill. As Congress usually 'grinds slow' a good deal of hustling outside of Congress will be necessary if the sugar pine forests are to remain standing."

The Chicago *Tribune* both in its editorial columns and through its Washington representative, Arthur S. Henning, hinted that ownership of private lands by members of the Senatorial family was responsible for the delay, and continued: "The House of Representatives passed a bill authorizing the government to take over lands privately owned in national parks when needed to preserve them. Citizens interested in the preservation of the forests have endeavored to save them."

It pointed out relative to private owners: "Mr. Rockefeller would have been regarded as a citizen enjoying an inequitable privilege if he had protested that he did not want to have his property taken for national purposes."

The Florida *Times Union* added:

"It is held to be a principle of law that the welfare of the many must be held as above the advantages of the few. In this matter of acquiring lands for public park purposes, the interests of millions of people are at stake. Only fair consideration should be given to the interests of those who are private land-owners. If their property cannot be acquired on a reasonable price basis, then the land should be taken by the government through due process of condemnation proceedings."

Among the hundreds of other papers who have kept in touch with the American Nature Association and used their editorial and news columns to fight for the parks have been the New York *Evening Post*, the New York *Evening World*, the Washington *Star*, the Oakland, California *Tribune*, the Partridgeburg, West Virginia *News*, the Philadelphia *Public Ledger*, the Boston *Transcript*, the *Christian Science Monitor*, the Kalamazoo *Gazette*, Los Angeles *Times* and the Fort Wayne (Ind.) *News-Sentinel*. The battle has been good for the people. They first have realized that they often must fight to maintain their recreational beauty spots, and they have learned who are their friends. And best of all, they know what they want, and no agency, private or pseudo-public, can take it away from them.

GLADIOLUS - DAHLIAS

600 named varieties of gladiolus bulbs have already been discarded so that our customers may receive the highest quality bulbs at moderate prices. Our introductory mixture is selected from choice separately stored named varieties. The high quality and large variety will surely please you at blooming time. Large bulbs $4 per hundred, half size at half price. State colors preferred or to be omitted. Price list on request.

THE KENNEDY GARDENS
MIDLAND, MICHIGAN

PLANT BABY EVERGREENS

Norway Spruce—Arbor Vitae—Col. Blue Spruce.
We specialize on small evergreens.
Evergreen and ornamental catalogue free.
THE RANSOM NURSERY, Geneva, Ohio

NUT CROPS

The North's future soil production
Progressive farmers are planting groves of improved grafted nut trees. Learn why. Read "Save America's Nut Heritage & Nut Grower".
John W. Hershey, Nut Trees, Box 65 (1), Downingtown, Pa.

Keep ferns lovely all winter long

No Plantabbs

Use Plantabbs. Amazing new discovery! Small, white, odorless tablets more powerful than finest fertilizer or manure. One tablet to pot each week makes ferns, geraniums, begonias, all potted plants **grow like magic.**

Plantabbs Used

FREE BOOK

32 pages, interesting, highly illustrated, tells how to raise and care for all potted plants, FREE with order. Large package Plantabbs, full winter supply, $1.00 postpaid. Guaranteed to improve your plants or money returned.

PLANT PRODUCTS COMPANY

123 Fulton Bldg., Baltimore, Md.

BEAUTIFUL AZALEA

Universally liked for its mass of beautiful brilliant flowers is the Japanese Azalea. Its dependability as a profuse bloomer makes this shrub much in demand. On planting lists chosen with discriminating taste, Azalea always finds a well deserved place.

This variety of Azalea is a member of a large family of which a number of common but pretty native varieties lend splendor to the Rhododendron Flora of the mountains of Virginia and North Carolina and neighboring States. Japanese Azalea is a *hardy* variety in a beautiful range of colors. Large flowers in clusters is a characteristic blooming habit. Partial shade and planting in leafmold is beneficial to its best growth.

SPECIAL OFFER

Order either of the following shrubs from this ad at these very special *postpaid* prices.

Japanese Azalea (Mollis)

10 in.—12 in. thrifty plants.....65c each — *4 for $2.00*
12 in.—15 in. very bushy.....$1.25 each — *4 for $4.00*
The new red-leaved Japanese Barberry
9 in.—12 in. Bushy plants.....65c each — *4 for $2.00*
12 in—15 in. Bushy plants.....80c each — *4 for $2.50*

15 in.—18 in. Bushy plants $1.00 each..... *4 for $3.25*

Get our big 1929 Catalog that tells all about our 600 Acres of *"Everything that's Good and Hardy."* The catalog is a veritable index of big values and contains a complete listing of standard and rare varieties as well as the good old favorites. Get the free booklet that tells you how to plant for best results. It is simple and easy to understand. Send your order for the Barberry today and ask for catalog and booklet.

THE COLE NURSERY CO.
Box 15
Painesville, Ohio

Free Catalog and Booklet entitled "How to Plant"

BLAZING STAR (Liatris)

Hardy Perennial, stately, rose-purple spikes 5 ft. this fall from plants. Special offer—Doz. $1.; 25 $2.; 50 $4.; 100 $7.50 delivered free. Headquarters for budded elm trees.

H. R. MOSNAT

Morgan Park **Chicago, Ill.**

GARDEN LOVERS

An original magazine for those interested in gardening. Agricultural secrets and cooking of many nations, divulged by a student of these subjects. Home gardening simplified and made profitable. The only magazine that becomes a real book.

MARY O'SHEA GROUT

321 West 55th Street **New York City**

SHOOTING STARS AND FIREBALLS

(Continued from page 260)

reference points, and the duration of its flight. To obtain the duration one should become accustomed to counting seconds and begin to count as soon as the object is first seen and continue the count until it disappears. One will find an hour or so of search for meteors on clear, dark nights to be not only an interesting occupation but one that may prove to be of real scientific value. The present month is an excellent time to start the hunt for meteors.

This month Orion disappears from view in the west. Leo, one of the spring constellations, will be found on the meridian due south while the Big Dipper is drawing close to the meridian in the north. Gemini and Auriga, the last of the winter constellations to disappear, are still high in the west and northwest, respectively. Bootes, The Herdsman, the kite-shaped summer constellation which contains Arcturus, one of the finest of the first magnitude stars, of reddish-orange hue, is now seen in the east, while Virgo, one of the largest of the zodiacal constellations, with its beautiful, bluish-white Spica, is coming well into view in the southeast.

Among the planets this month we find that Venus is too near the sun to be seen except for a few days early in the month. It will be in inferior conjunction with the sun on April 20 after which it passes to the morning sky. Jupiter now sets less than two hours after the sun and is in Aries. Mars is in Gemini and about equal to Regulus or Spica in brightness. Saturn is in Sagittarius and rises about midnight. Mercury is too near the sun to be visible in April.

What makes a good
PLANT LABEL GOOD?
It must be impervious to moisture, must retain its markings, and must not girdle the Plant—WE HAVE IT.
Sample Line for the Asking
THE AQUAPROOF PRODUCTS CO.
2175 East 76 St. Cleveland, Ohio

DAHLIAS

6 CHOICE VARIETIES for Catalogue Value $4.00 — $2.00
6 Large Exhibition Varieties for Catalogue Value $10.00 — $5.00
Our 1929 Catalogue FREE On Request
Montrose Dahlia Gardens, Wakefield, Mass.

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The GARDEN NURSERIES Narberth Pa.

Oriental Flowering Trees
America's Finest Collection
Japanese Rose Flowering and Weeping Cherries, Flowering Crabs; in all varieties and sizes. Send for free book with color illustrations.
A. E. WOHLERT
927 Montgomery Avenue
Narberth, Montgomery Co., Pa.

WILD FLOWERING PLANTS

Beautify city lot or large estate. For land and water. 60 natural food plants —berry-bearing shrubs that attract birds, fish and animals. Suggestions—prices free.
Terrell's Aquatic Farm
22 N Blk. Oshkosh, Wisconsin

The Little Flower Garden

In Yellow, Lavender, Blue, Pink and White

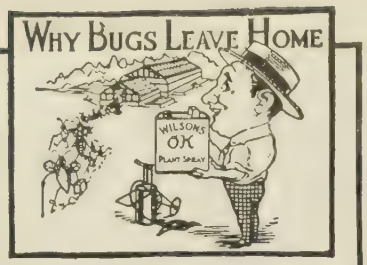
WE WILL send at the proper time for planting in the spring, the forty Hardy Perennials listed below, with full directions for preparing the beds and planting. From this collection you will have cut flowers throughout the season.

4 Viola Jersey Gem
3 Nepeta Mussini
3 Phlox Dwarf Blue
3 Sedum Acre
3 Hardy Ageratum
3 Iris
3 Elder Daisy
3 Peony plants
3 Spireas
3 Gaillardias
3 Delphiniums
3 Hardy Asters
3 Perennial Sunflowers

PRICE: $10.00

If you want to start a new garden, our directions for planting and placing the plants will insure success.

Totty's
MADISON, NEW JERSEY



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Bugs need not ruin your beautiful plants, flowers, shrubs and evergreens. Destroy them through the use of Wilson's O. K. Plant Spray . . . the nationally recognized standard insecticide. Wilson's O. K. Plant Spray is non-poisonous, easily applied and is equally effective in-doors or out-of-doors. Recommended by the Officers of The Garden Club of America. Half-pint 40c; Quart 1.00; Gallon $3.00; 5 Gallons $12.00; 10 Gallons $20.00.

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For Rhododendrons

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Planted from April to end of August. Rich, gorgeous colors. Delicate fragrance. Easy to grow.

75 VARIETIES
of the rarest and finest Water Lilies from the largest Aquatic Gardens in America. Big, hardy roots *guaranteed*. Send for Catalog NOW.

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Send for my new 36-page Gladiolus Book, describing 175 exquisite varieties, many new. Tells how to grow. 45 illustrations. It's free!

My famous beautiful RAINBOW COLLECTION will delight you. 1 bulb each of 30 varieties (not labeled) all colors, blooming size, planting hints included, satisfaction guaranteed, $1.00 postpaid.

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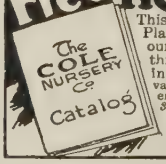
SAWYER WATER GARDENS, Ellet, Ohio

National Flower Workers

The Campfire Girls of Reading-Berks County, Pennsylvania, have been crusading for national flower votes among civic clubs, Nature associations and women's clubs, and here are four of the leaders enticing the unwary citizen to the polls. Their example is being followed by other groups of Campfire Girls and Girl Scouts, but it hardly can be surpassed, so diligent have they been. Nature Magazine is very proud of introducing them as Jeanette Northeimer, Lily Halkier, Sylvia Harding and Sylvia Mahr, appearing from left to right. They are members of the Ocowasin Campfire group.

Another active group has been the Adjidaumo Campfire group of Douglass and Weiser Junior High School, who have twice put on floral playlets and campaign rallies, at which each candidate had a spokesman. The leader has been Miss Mabel May Stoudt, the guardian.

Free HOW TO PLANT



This valuable little booklet "How to Plant" will help you Sent **free** with our big 1928 catalog that lists everything needed for tastefully landscaping your home. Standard and rare varieties. Shrubs, Trees, Evergreens, Perennials Bulbs and Fruits. **SPECIAL---** *3 Blooming Size White Regal Lily Bulbs for $1.00 Prepaid.*
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List of prize winning varieties on request.
See also ad in January Nature Magazine.
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Send for list of Native plants, Perennials, Hardy Lilies and Rock Plants.
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and Power Mower
Plows, Seeds, Cultivates, Mows Lawns & Hay
For Gardners, Florists, Fruitmen-Walk or Ride
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Choice trees for **$1.00 each; 3 for $2.50,** by parcel post, postpaid.

SPECIAL For **50c** extra we will include three small **TULIP TREES**—fine ornamental shade trees with tulip-like flowers.

Our stock of trees will not last long at these low prices. Order now, and state when you want trees shipped. CATALOG FREE. **BURGESS SEED & PLANT CO.,** 340-T. R., **GALESBURG, MICH.**

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Every One WORTH-WHILE

Gay Morning	Salmon Bronze	$3.00
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Rose Fallon	Autumn Tints	$1.00
World's Best White	White	$1.50
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The above collection sent by insured P. P. for $5.00. Pompons 12 different, correctly labeled, P. P. $2.00. Send for list.

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10 RARE VARIETIES $1.50
Postpaid to your door. All different colors. Guaranteed. Vigorous tubers that will grow big, brilliant-hued blooms on strong, straight stalks.
GLADIOLUS—50 for **$1.00**, **100** for **$1.75**, **20** varieties—all different colors; rich tints; darks and lights.
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FREE—140-page Catalog of Seeds, Bulbs, Plants and Shrubs. All prices include postage.

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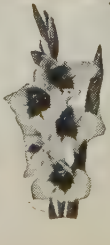

White, Cream, Buff, Yellow, Orange, Apricot, Shell Pink Lilac Pink, Deep Pink Rose, Lavender, Scarlet, Crimson, Maroon, Purple, Mottled, Variegated and Suffused.
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Best of garden flowers—very easy to grow. A trial of this special offer will make you a "Glad" fan!

A Whole "Glad" Garden $3

100 large bulbs, at least 30 beautiful varieties, many different colors. (50 for $1.75.) We include complete instructions for growing prize-winners.

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—the wonderful Vanderbilt hybrids. Nothing finer in the world. Large, strong plants; will bloom finely this year. Per doz., $4.

Butterfly Bush or Summer Lilac—a fine, showy bush 4 to 6 ft. high, covered all summer with long spikes of beautiful pale lavender flowers. 35c each, 3 for $1.

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Send for **CATALOG** "that is different", 233 of world's leading Gladioli and best varieties of other garden flowers.

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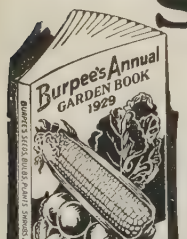

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Directions for forcing or growing outside. 5, $1, doz. $2, pp Lists of wildings & iris.

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North Carolina Birds

A Guide to the Winter Birds of the North Carolina Sandhills is the amply descriptive title given to a new volume which can best be reviewed by citing its inspiration. The book is, according to the title page, by Milton P. Skinner with chapters by Dr. John Warren Achorn. Dr. Achorn was a retired Boston physician and bird lover who made his winter home at Pine Bluff, North Carolina. His study of birds of the locality led him to the desire to have a complete study made and a winter bird book of the region compiled in the light of field investigation. This plan was already virtually under way when Dr. Achorn passed away in 1925 and those who were to do the work, notably Dr. Charles C. Adams and Professor Alvin G. Whitney, were unable to continue. Mr. Skinner's services were enlisted and Edmund J. Sawyer was commissioned to do the colored plates, thirteen of which he has ably executed. Two winters in the field resulted in the gathering of the required material and these results, plus three articles written by Dr. Achorn, have been incorporated in this volume, a fine memorial to Dr. Achorn. The book is published and distributed by the Science Press Distributing Company, Grand Central Terminal, New York City. It is listed at four dollars.

For Bee-Keepers

A new addition to the literature of bee raising is made with the publication by G. P. Putnam's Sons, New York, of *Practical Bee-Breeding* by A. Gilman. The author, an Englishman, is a practical bee-keeper and his book contains several useful and illuminating ideas. He has invented a new method of queen introduction and simplified the work of the large breeder by his group system. The list price of the book is $2.50.

Rockwell on Dahlias

Macmillan has added another volume to their group by F. F. Rockwell known collectively as "The Home Garden Handbooks." This one is on Dahlias and the subject is handled in the same competent and usable way as the companion volumes in this group. The book is listed at one dollar.

JAPANESE BARBERRY

Vigorous, healthy, 3 year transplants, 12 to 20 inches. $2.00 per dozen; $12.00 per hundred; $100.00 per thousand.

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No tiresome, back-breaking hand-weeding is necessary when you fertilize your lawn with Arcadian Sulphate of Ammonia. Arcadian is rich in the nitrogen essential to leaf growth and sets up a soil reaction detrimental to weeds. One application of Arcadian and your lawn will show a wonderful improvement—much healthier grass, much fewer weeds. Continued Arcadian treatment will enable the desirable grasses to crowd out the weeds and give you a velvety weedless turf.

Lawn experts everywhere recommend Sulphate of Ammonia. Prof. Albert A. Hansen, Purdue Experiment Station, in April (1928) Nature Magazine, calls it "the best lawn fertilizer in the open market." And Geo. T. Moore, Director No. Botanical Gardens, says, "We have in Ammonium Sulphate (Sulphate of Ammonia) the best single chemical fertilizer that can be used on a lawn."

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Reg. U.S. Pat. Off.
Sulphate of Ammonia

Arcadian Sulphate of Ammonia is easy to apply. Just scatter it on the soil when the grass is dry and sprinkle thoroughly. Arcadian looks like fine, dry sand—makes no muss on the lawn and has no odor, no filler, no weed seeds. Just concentrated plant food (20¾% nitrogen). 10 lbs. fertilizes 2500 sq. ft. of lawn.

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Scott's TURF Builder **A Complete Fertilizer** for lawns, makes and keeps grass healthy, use twelve pounds per 1000 square feet—price 10 lbs., $1.00, 25 lbs., $2.00; 50 lbs., $3.50, 100 lbs., $6.00; *delivered by prepaid express or parcel post.* Special prices on 500 pounds or more. Write for booklet.

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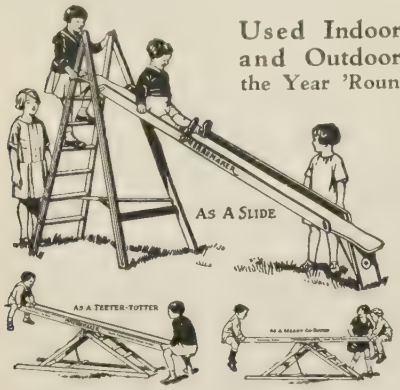

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Your Birthstone

The Romance of Your Birthstone, by Hope Swengel, is one to have on the sitting room table when dull callers come, or to bring to parties to liven them up, or to study in quiet to dig out the mass of interesting gem facts it contains. It is the story of the jewels that have become associated with the months of the year, preceded by an account written by Herbert P. Whitlock on symbolism that legend and folklore have attached to precious stones. You may be dumbfounded at the credulity of some of the people in the past, whose beliefs are recited by the author,—until you find yourself almost believing them, too. The book is issued by the Coordinating Council on Nature Activities, and can be obtained from their office at 77th Street and Central Park West, New York City.

Out of the Cocoon

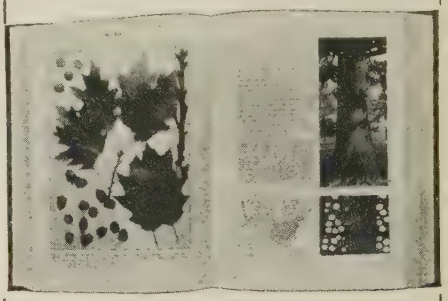
Those Nature lovers whose fortune it has been to have discovered or been led to the works of Zephine Humphrey will welcome the news that E. P. Dutton & Co. has brought out her latest volume, *Chrysalis.* It is a brief for the small house by the running brook with a peaceful meadow for a back yard, which description far from suggests the delightful way in which the author tells her story. Those who read *Winterwise* and *Mountain Verities* will not wish to miss this newer book, and those who didn't shouldn't. It is two dollars and fifty cents worth of pleasure.

A Voyage in the Ark

Medieval art and literature is replete with picture and word of the wild world of the time as understood, or misunderstood, in those days. Weird were many of the stories and astonishing many of the concepts of life histories. Mr. George Jennison, former head of the Belle Vue Zoological Gardens at Manchester, England, has delved into this art and literature and from it he has extracted the material for his latest volume, *Noah's Cargo.* It constitutes an entertaining and most amusing volume. It is published by Macmillan and sells for $3.50.

Are you teaching the children to know and love the trees? Give them

HOUGH'S HANDBOOK OF TREES



with illustrations on every page. This book pictures in detail all the trees east of the Rockies and north of the Gulf States. No other like it. Address
ROMEYN B. HOUGH CO., Lowville, N. Y.

For all Nature Lovers

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Secrets of the Underwoods

By DONALD and LOUISE PEATTIE
Authors of "Bounty of Earth", etc.

A book of fascinating stories which show an unusual understanding of wild life and have a rare dramatic power. The title is meant to explain the one faculty that is common to all our animals, the way in which messages of scent are borne down the wind. Every lover of nature and animal life will delight in this book.
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includes only sturdy 2-year-old FIELD-GROWN bushes of these five finest fragrant varieties:
SOUVENIR DE CLAUDIUS PERNET—spell-binding all-yellow rose (illustrated);
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Pick these long-stemmed, perfect, fragrant blooms from your own garden all summer and fall.

ACT NOW Send $1.95 today, while limited supply lasts, and bushes will be mailed POSTPAID when planting season opens. Beyond Mississippi River, add 20c.

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Plump, healthy bulbs, guaranteed to bloom this year. Includes eight different remarkable colors.

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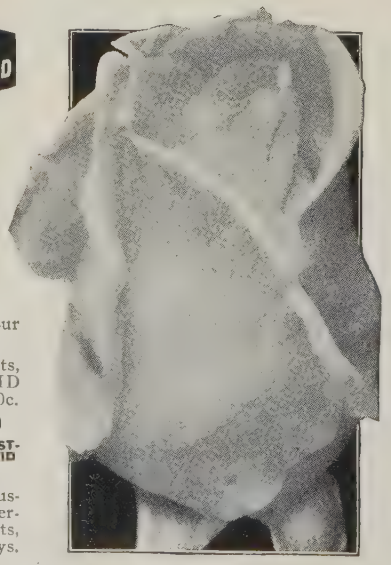

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NATURE NEWS AND VIEWS

More Billboard Help

Four years ago the Standard Oil Company of California decided to abandon advertising signs on the Pacific Coast highways and 1200 signs were destroyed. This was done in the face of stiff competition. The public reaction has been most favorable in the rising tide of opposition to the rural billboard. There comes to our attention an attractive little booklet being distributed at Standard filling stations on the West Coast. It is entitled "What Do you Want to See?" and is the reprint of an article by Kathleen Norris. Mrs. Norris presents the case against the billboard in able fashion, placing principal reliance on public sentiment, as does an article in another place in this issue. One of the most interesting suggestions she makes in the booklet, however, and one which will inevitably capitalize on this aroused public sentiment, is that advertisers who have abandoned billboard advertising carry in their advertisements in magazines and newspapers some legend such as, "We do not mar our scenery with billboard advertising." In the present state of the public mind that would be a valuable selling point.

Land Mammals

The report of the Committee on Conservation of Land Mammals, chairmanned by Edward A. Preble, and composed of Mr. Preble, T. S. Palmer, and Lee R. Rice, will not cause any conservationist to shout with glee and say, "I've won". The report opens: "It is our conviction that there has already been entirely too much optimism regarding the status of our wild life", and goes on to show that mere restriction of hunting periods is not sufficient to protect the capital stock, but that much more than the natural increase is killed each year. Game commissions are short-lived, have successive varying interests, and do not follow any consistent policy. "In general", the commission states, "the states seem to be indifferent as far as concerns any serious effort to make the annual catch of fur-bearers bear a safe relation to the increase". It points out the danger of interbreeding resulting from introduction of foreign species to serve the hunter, citing the well-known tularemia epidemic as a warning. The only solution the report offers is that "the growing class interested in wild life for its own sake, not for profit or pleasure" must more closely organize and expand to control a serious situation.

How's to Swap?

David Travis, of 6300 Fifth Avenue, Kenosha, Wisconsin, collects small mammals, reptiles and fish and has a number of specimens taken from his own locality which he will swap for creatures found in more distant borders of the nation. He is particularly interested in Texas, Oregon, Florida and California, and has a preference for chameleons, lizards, alligators, horned toads and similar animals. So—traders attenshun!

Here is *YOUR* Washing Machine.

AMAZINGLY compact, efficient, fully guaranteed. A most revolutionary washer. No drudgery washing the EDENETTE way. A perfect washing turned out in 15 minutes right on your kitchen table or wherever convenient, without fuss, bother or slopping suds. Think of it—you can own an EDENETTE for less than one-third the cost of the ordinary washer.

Simply drop into the EDENETTE tub an armful of clothing, such as you see in the photograph, pour in hot water and soap flakes, place on the top containing the motor-driven vacuum cup, plug extension cord into any light socket. In 15 minutes clothes will be beautifully washed. Handles anything from dainty lingerie to a mattress cover.

Easily carried—weighs only 17 pounds. All moving parts housed—no danger to even baby fingers. Top when inverted fits into tub, *as illustrated in photograph.* Store it under table or on closet shelf.

Send No Money!

You must actually see and use the EDENETTE to appreciate this amazing Washer. We do not ask for even a deposit. We will ship it to you for 5 Days' Free Trial, all transportation charges paid, knowing full well it will sell itself to you. If you are not as enthusiastic about the EDENETTE as thousands of other users, just return it at our expense. No questions asked. You are dealing with one of the oldest manufacturers of clothes washers in this country.

This is the time and labor saving device you have needed. *Don't delay*—now is the time to examine it FREE. Easy terms offered. *Mail coupon now.*

Note What These Users Say!

"Your EDENETTE Electric Washer is marvelous—a great time and labor saving piece of machinery. From a hygienic standpoint it is perfect. We have been using the EDENETTE ever since our baby came. He is spotlessly clad with little trouble. We use Ivory Flakes and our clothes are washed spotless white and soft. We like the fact that the use of the machine is so simple that the maid can use it, as no special skill is required. It certainly frees the mother from the usual drudgery with little expense."
Dr. B., New York City.

"Am enclosing my check of $49.50 for the EDENETTE WASHER and I would like to broadcast it that it is the grandest little washer going. I am going to take it to Nantucket this summer as I find it will help us out a great deal as laundry work there is very expensive."
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"The EDENETTE reached Willows in good shape and has become an indispensable piece of equipment in our household. It just fits my need for the small household wash and does the work well."
Mrs. R. H., Willows, Calif.

"I am immensely pleased with it—it washes all my small fine things beautifully and I also use it for rinsing them, so I hardly have my hands in the water at all. It is just exactly what I have been looking for for some time."
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"I think it is just wonderful, does its work just perfect. I must say that I love to wash with it."
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Open territory for Exclusive Representatives. If you wish to build your own business, have $300.00 to invest in merchandise, write for Distributors' Prospectus.

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Send me the EDENETTE clothes washer for 5 days' FREE TRIAL. If I keep it I will pay $49.50 cash or $4.50 at the end of trial period and $5.00 per month for 10 months until paid. Title to remain in you until fully paid.

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Nature Guides

Within a generation this country has changed from an agricultural nation to an industrial one. Formerly our children were born in farmhouses and spent their childhood in the woods and fields. Lincoln found all the growth of muscle, nerve fibre, and brain that he needed among the pastures and brambles. Today children are born in hospitals and spend their lives in cities. In this transition we have lost contact with Nature. The necessity of this kind of knowledge is just beginning to dawn upon us.

We are suddenly faced with the problem of giving back to the city child the things that the city has taken away from him. Over in the Western Reserve the public school system of Cleveland has founded a Nature Guide School to train leaders who can give the child a rich Nature experience. When the leaders have become efficient it is proposed to have them take the children right out into a metropolitan park area for a month or more.

The Nature Guide School makes use during the summer of the campus, farm, and woodlands of Western Reserve Academy, boys' preparatory school at Hudson, Ohio. Over a century ago, a band of pioneers from Connecticut crossed the Alleghenies and selected Hudson as a high and healthy place to settle. And now, as though in commemoration of that event, another band of pioneers are again burning the birch-log, smelling wood-smoke, and becoming "quick to read the voices of the night."

The Nature Guide School is starting its second session on June twenty-second. The new bulletins, which are just off the press, are not the cut-and-dried sort that usually appears from a university press but represent an illustrated exposition of a new educational movement. Our readers will be interested to know that the school is under the direction of D. William G. Vinal ("Cap'n Bill") who contributed to this magazine last year. Booklets which describe the Nature Guide School in detail may be obtained by writing to the Registrar, 2060 Stearns Road, Cleveland, Ohio.

Louisiana Guardians

"Every youth of Louisiana to be a Nature Guardian," to protect birds, prevent forest fires and promote conservation, is the slogan of the Bureau of Education, Department of Conservation of the State of Louisiana, now carrying on an active campaign in the schools to safeguard the natural resources of the state. Bird and animal clubs are being organized in every classroom, armed with conservation facts, and sent forth in the communities crusading for Louisiana Nature. The movement shows signs of spreading to other states.

Patenting Plants?

One of the most novel plans evolved in the field of Nature is being undertaken by the National Association of Gardeners—it is to secure the ultimate patenting of plants. A committee is to investigate and work up this project, leading first towards national and international plant registration, then later to ways of preventing plant plagiarism. If successful, this project will develop a new and unique use for the injunction.

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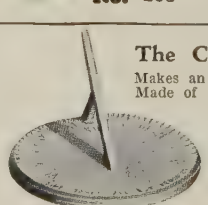

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California State Bird

The oriole, or possibly the mocking-bird, will be the state bird of California if the number of essays submitted from Los Angeles county in the California Audubon Society school children essay contest of last year indicates the general feeling of the state. More than 80 pupils chose the first-named favorite as the subject for their articles, while 75 picked the mocking-bird. The gull inspired 74 eulogies, while the California quail, considered a powerful state bird candidate, brought out 73. There were 814 essays submitted in all on 54 aspirants for the state honor. Six prizes were given to winning essayists in each grade. The judges picked the arguments of Phyllis Johnson of the sixth grade of the Santa Barbara Avenue School, Los Angeles, in behalf of the lowly English sparrow as worthy of first prize for her grade, while Kiyoshi Fukuhara of the John Adams Junior High School, Los Angeles, earned second award in the seventh grade by writing of the California meadowlark. Other winners were Joe Villa of Saugus, fourth award for the sixth grade, on the meadowlark, and Manuel Espinosa, of the ninth grade of the David Starr Jordan High School, Los Angeles, who won a first for his imaginative thesis on the California condor. The state bird has not yet been chosen however, as the votes still roll in in large numbers. The polls will probably stay open until late in 1929.

Ohio Conservation

Water pollution and how to prevent and eradicate it is the special work of the Conservation Division of the Ohio Federation of Women's Clubs for the year 1929, according to Mrs. George McDonald, the State Conservation Chairman. The entire state is being aroused by the "Anti-pollution Crusade", and prizes are being offered to the clubs doing the most effective work. Using as arguments the facts that filth along the shores of Lake Erie has almost destroyed Ohio's lake fish supply, that the demand for pure water is increasing, and that waste disposal is accompanied by too much carelessness and disregard for human welfare, the clubs have laid the matter before civic organizations and the schools for local action. The Conservation Division is also getting out the Ohio National Flower Vote under the leadership of Mrs. M. S. Thompson. Mrs. M. Brayton Graff is in charge of the water pollution work, with Mrs. McDonald supervising all conservation activities.

A Fireproof Museum

The menace of fire, always threatening the forest, and now hanging over the collection of the San Diego Natural History Museum, has caused the San Diego Society of Natural History to make an appeal for funds to build a new fireproof Exposition Building. The burning of the present structure, the society advises, would mean the complete loss of scientific and educational collections that could hardly be replaced. A sum of $125,000 has already been offered if a similar amount is raised by popular subscription. John W. Snyder is treasurer of the Society, at Balboa Park, San Diego, California.

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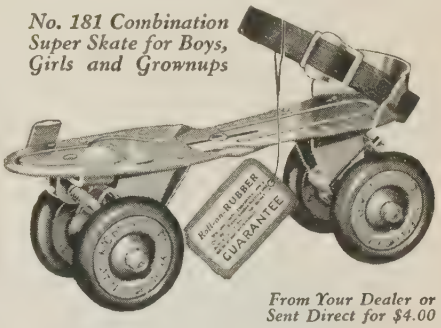

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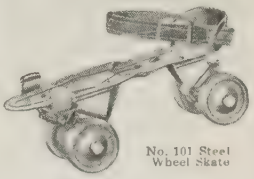

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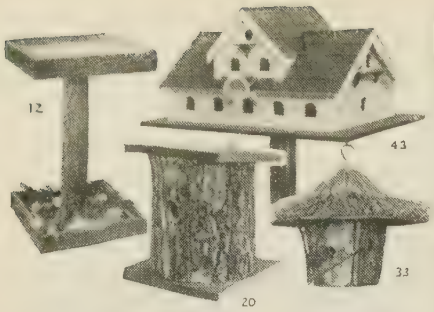

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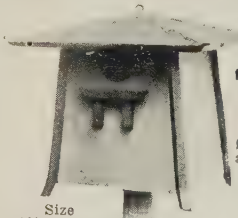

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Society Takes Stand

In view of one of the primary objects of the New York Zoological Society being the preservation of our native American animals, the Society at its recent annual meeting emphatically went on record declaring that "indiscriminate killing of predatory animals without a thorough study of their value in any given area is unscientific and unfair." The Society also pointed out that the "introduction of exotic species may become a dangerous factor in disturbing the balance and natural condition of our native American game." In the light of these assertions it was resolved that the Society "while recognizing the fact that a certain control of predatory animals is at times necessary, is strongly opposed to the extermination of a single species of our American wild life." It was further asked in a resolution that "the Federal Government be urged to adopt for our National Parks a policy whereby all the wild life should be studied intensively with a view to determine scientifically to what extent its regulation is advisable and that the policy of destroying the predatory animals be suspended until such policy has been considered, and that this Society tender its services to the national government for the purpose of aiding in the efforts to reach a proper decision." Finally the resolutions placed the Society on record as opposed to the introduction of non-native animals into our National Parks and urged that the National Park Service prohibit such introductions.

Canning the Skunk

A gourmand skunk wandered into the yard of Miss Elsa Voorhees, near New York City, one day recently, and investigated the possibilities of the garbage pail. He found a fine can with plenty left in it. He ate. But whether his head swelled with the food, or his eagerness caused him to poke it in too far, the result was the same—he was armored from the neck up—and there was no repeal. All over the yard he wandered, bumping into trees and backing off, getting tangled up in the end of the can, which was altogether too long to be a suitable headpiece, and all of the time resembling a new model skunk whose mother would not have known him. Finally one of the persons watching him, pitying the creature, went up and tried to pull it off—but to no avail. The old story of Androcles and the Lion was repeated, for the

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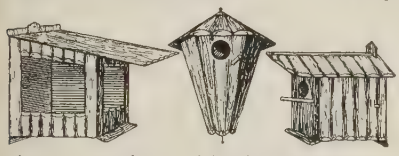

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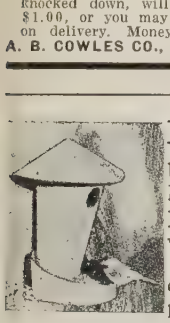

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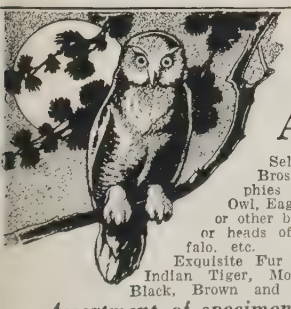

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Burrough's Birthday

The New York State Federation of Women's Clubs will make April 3, John Burrough's birthday, again their gala conservation day, honoring the great naturalist by reports, speeches, and special exercises to take place in New York. In the morning, a checking up on progress in the saving of the natural resources will be made by reports from different organizations, while in the afternoon meeting, one of the features will be a playlet in which girls will portray the different floral candidates now competing in the American Nature Association National Flower Poll. A voting booth will be placed at the entrance of the meeting, and each of the 2,000 expected at the meeting will undoubtedly cast their ballots for their favorites as they enter. The program is being arranged by Mrs. C. M. Marshall, conservation chairman of the Women's Clubs, and president of the National Life Preservation Society.

Hardy Blackbird

The rigors of Northern Maine winters have no terrors for a certain blackbird which has made his home near the residence of Edward Gilbert in Houlton, Maine, within two miles of the New Brunswick border. Well past mid-winter this bold bird joined a colony of English Sparrows and other birds which were fed all winter by Mr. Gilbert and seemed to be satisfied with his snowy environment and planning to stay the season through. There seems to be no record of a blackbird being in Maine later than Christmas day.

NATIONAL FLOWER POLL

National Flower Editor

American Nature Association

1214 16th Street, N. W.

Washington, D. C.

My choice for National Flower is

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(If club or school is voting, register number of votes cast for each candidate. Names of other favorites can be filled in.)

First ..... No. votes.....

Second ..... No. votes .....

Third ..... No. votes .....

Name (secretary of school, class or club)

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Christmas Greens Destruction

The worst blow that has ever been dealt to the work of those trying to educate the public in the preservation of such rapidly disappearing Christmas greens as Ground Pine, Holly and Laurel has recently been dealt officially by two members of the staff of the Department of Rural Social Organizations of one of our largest and best-known state universities. This is in the form of a four-page mimeographed bulletin entitled "A Four-H Hike to Cut Christmas Greens," which was distributed to the New York State Four-H boys' and girls' agricultural clubs just before the last Christmas season. The authors must be given credit for urging moderation in cutting Christmas greens, and suggesting methods of doing so as well as directing the hikers to secure the permission of the owner of the property before cutting any material. The psychological effect of a large state public service institution urging such expeditions is, however, bad. Ground Pine and Holly in New York State should be protected as vigorously as possible. Laurel is in some of the rural parts of the state abundant and regarded by the farmers as a weed; but if found around the larger cities and towns it should be protected. If such publications are to continue we may next expect to see one urging hikes to collect Trailing Arbutus, Lady's-Slipper and other rare flowers. New York State residents, interested in conservation, should send a vigorous protest to the Director of the Department of Rural Social Organizations, State College of Agriculture, Ithaca, New York, condemning the public distribution of such articles by his department.

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The American Tree Association stands for a constructive policy of forest protection and extension, to increase appreciation of forests as natural resources essential to the sound economic future of the country.

The Association directs encouragement of tree planting by the public; disseminates popular forestry news for the information of editors of the daily press; and compiles and distributes forestry news and reports on legislative progress for assistance of active foresters in the field.

The American Tree Association

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Educational Director

TO the father of Arbor Day in this country the thought of the tree planting army turns at this time of year. The man whose memory the tree planter honors is J. Sterling Morton who inaugurated Arbor Day in Nebraska in 1872. The legislature of that state made the day April 22, Mr. Morton's birthday. The centennial of Arbor Day will come in 1972. Why not celebrate that centennial right now by planting trees? Thus you will have a part in a centennial you may not see. At Nebraska City, Morton began planting trees years ago. Today those trees pictured below are in a state park as a memorial to the man who not only preached tree planting, but also practised it. A tablet on the grounds sets forth that trees make a memorial satisfactory to him.

Since then the nation has arrived at the point where it must plant trees and the American Tree Association has under way a nation-wide campaign to awaken the people to the need of action on a wholesale scale. This means planting the millions of idle acres in the country, fit for nothing else, to trees. On the importance of the people awakening on this point Charles Lathrop Pack, president of the American Tree Association, in a speech before the New York State Federation of Women's Clubs, said:

"This thing we call public opinion does remarkable things. Public opinion is planting trees. This same public opinion is making State Legislatures and the National Congress pay more attention to the ever-growing demand that our millions of acres of idle land be put to work growing trees. The target at which forestry is aiming is the growing of continuous crops of timber on all of our available timberlands. Here, too, progress is being made, but more public sentiment is needed. We are a rapidly growing nation. An increase in population means an increasing need for wood, and the Census Bureau tells us that this country's population is increasing at the rate of 1,000,000 inhabitants a year. Our only way out of the problem of supplying a continually increasing demand for wood—a demand that is being made upon a continually decreasing forest—is to put every acre of available land to work growing trees."

It is to this end the American Tree Association is working. It will send you a tree planting book or a Forestry Primer for the asking. Perhaps you cannot plant a tree but you can plant the seed that starts people thinking about tree planting. If so, you surely have joined the tree planting army. You and the millions of tree planters the American Tree Association reminds of J. Sterling Morton's birthday as his birthdate nears.

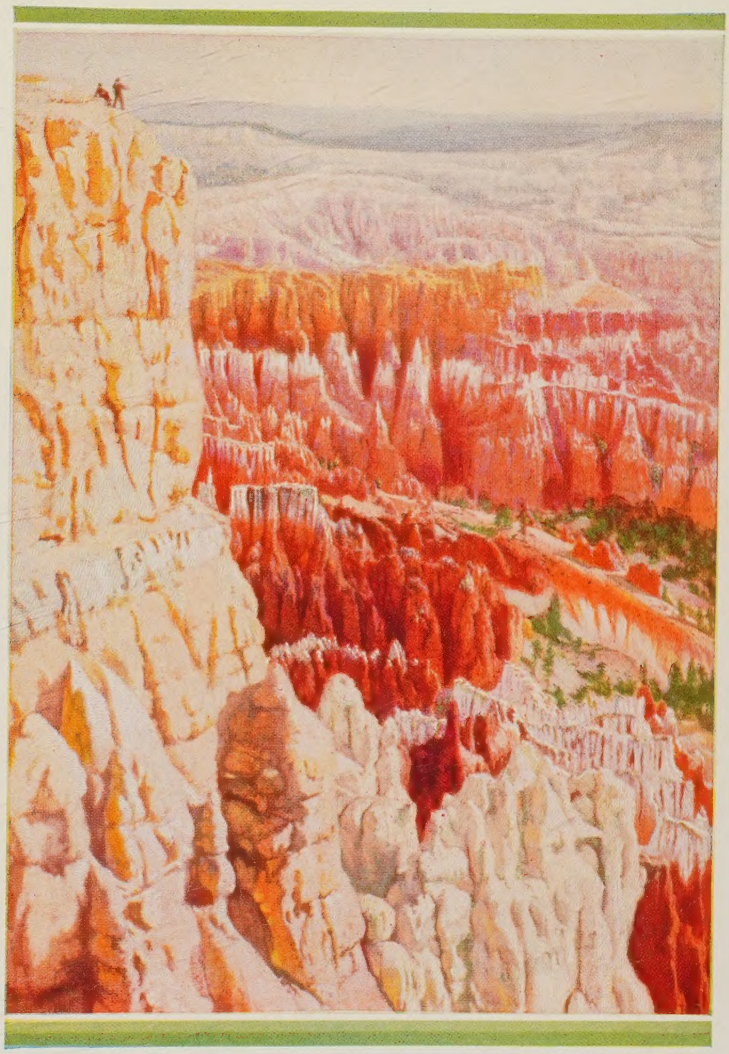
PHOTOGRAPH COURTESY ROCK ISLAND LINES

If ye seek my monument look around you.—J. Sterling Morton.

Union Pacific

"Unka-timpie Wa-Wince Pock-ich"

(Bowl shaped canyon filled with red rocks standing up like men)



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